

REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is requested.

Drawings

The Examiner indicated that the replacement drawings which had been filed on March 22, 2004 (i.e., Figs. 6A, 6B, 11, 14, 15, 17, 19-21, and 27) are acceptable. However, the Examiner indicated that the balance of the drawings needed to be replaced by formal drawings which would comply with 37 C.F.R. 1.121(d). Certain elements have been added or amended. Revised drawings are enclosed accordingly. No new matter has been added.

Also, the Applicant has determined that there had been some relatively minor errors in certain of the drawings submitted on March 22, 2004, namely, Figs. 6B, 11, 14, and 15. Revised versions of Figs. 6B, 11, 14, and 15 are enclosed accordingly, to replace the versions of those drawings which had been filed on March 22, 2004. In addition, a revised Fig. 6A is enclosed. In Fig. 6A, certain reference numerals have been added. In Fig. 6B, another arrow showing direction of air flow has been added, to supplement the information provided (i.e., in the form of arrows) regarding air flow. No new matter has been added.

Claims

In accordance with 37 C.F.R. 1.121, the claims which are currently amended are presented with markings to indicate the changes that have been made relative to the immediate prior version.

Claims 1 and 15 have been cancelled. Claim 2 has been amended to include the subject-matter of claims 1 and 2 as filed and some additional limitations, as described below. Also, claim 8 has been amended by the addition of certain limitations. In addition, the following claims have been amended: 3, 5, 9 - 13, 16 - 18, 20 - 22, and 24. Claims 25-30 are new.

Claims 3, 5, 9 – 13, 16 – 18, and 20 – 22 have been revised to better define the invention. Support for the amendment to claim 5 can be found in paragraphs 0065 and 0068 of the specification herein.

Claim Rejections – 35 U.S.C. §102(b)

Claims 1, 6-12, 19, and 21-23 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,094,934 (Rand et al.).

As indicated in Figs. 11 and 15, the modular refrigeration unit (40) disclosed in the application herein can be used in a top-mounted or a bottom-mounted configuration, whether in front-, back-, or side-mounted configurations (para. 0083). This versatility is possible because, in the Applicant's invention, a bulkhead assembly (48) is positioned to cooperate with mating surfaces around an opening when the modular refrigeration unit (40) is pushed, in a substantially horizontal direction, into position between a main chamber (78) in a refrigeration cabinet and a condenser chamber (70), as shown in Fig. 6A. As can be seen in Fig. 6A, the modular refrigeration unit is pushed into the opening in a direction which is generally transverse to the bulkhead assembly. Notably, a substantially air-tight seal can be achieved even if the bulkhead is not perfectly positioned in the opening, and without a substantial force being directed (and/or maintained) transverse to the bulkhead.

In the enclosed revised claims, claim 2 now includes the limitation that the bulkhead assembly includes a bulkhead assembly including a periphery thereof (para. 0069), with a gasket assembly positioned around the periphery. The bulkhead assembly is receivable in the opening in a refrigeration cabinet, and the gasket assembly is engageable with a mating surface located around the opening to form a substantially air-tight seal between the main chamber and the condenser chamber.

In contrast, in Rand et al., a refrigeration unit (110) is disclosed with a partition (156) which includes two parts, namely, a top wall (152) and a divider wall (154) (col. 5, lines 55-65). The partition (156) is described as follows (col. 5, lines 60-65):

The partition 156 is preferably an up-side-down "L" shaped piece of molded plastic having spaced insulated walls similar to those of the cabinet 12. The partition 156 not only defines the top and rear of the first compartment 112, but is also part of the structure of the refrigeration unit 110.

Because of this configuration, the refrigeration unit (110) disclosed in Rand et al. could not be mounted in the bottom of a refrigeration cabinet, nor could it be top-mounted from either of the left or right sides, or the rear. This is because the top wall (152) and the divider wall (154) are substantially orthogonal to each other. Also, the unit disclosed in Rand et al. could not be said to be mounted by pushing the unit into an opening in a refrigerator cabinet in a direction transverse to the top wall (152) or the divider wall (154).

The Applicant therefore submits that the invention as defined in the enclosed amended independent claims 2 and 8 was not anticipated by Rand et al., for the reasons set out above. Also, the Applicant submits that the balance of the claims in question, being the claims which are dependent (directly and indirectly) on revised claims 2 and 8, namely, revised claim 3, claims 4-7, revised claims 9-12, claim 19, revised claims 21 and 22 and claim 23, are therefore also not anticipated by Rand et al., for the reasons set out above.

The Examiner is also invited to consider new claims 25-30 and the accompanying remarks which follow under the heading New Claims.

Claim Rejections – 35 U.S.C. §102(e)

The Examiner rejected claim 24 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,464,312 (Tenhundfeld et al.).

Claim 24 is directed to the Applicant's gasket assembly. The details of the gasket assembly are shown in Figs. 8A and 8B, and described in paragraphs 0064-0069 in the Applicant's application herein.

As defined in the revised claim 24, the gasket assembly is for use with a mating surface including a first thermal breaker portion (76) (shown in Fig. 8A). The gasket assembly includes a second thermal breaker portion (88) for attachment to a bulk head body portion. The gasket assembly also includes a flexible gasket portion (86). Preferably, the flexible gasket portion (86) includes a number of flexible vanes (90) extending from the thermal breaker portion (88) for engagement with the mating surface (76), i.e., the "first thermal breaker portion".

In contrast, Tenhundfeld et al. is directed to a thermal breaker assembly which is incorporated into a cabinet body. The thermal breaker assembly includes a "non-metallic contact sealing surface" (44) for contacting, and sealing with a gasket member (30) associated with a door for the refrigeration cabinet as shown in Fig. 3 (col. 3, lines 35-37). In the thermal breaker assembly, a chamber is defined behind the contact sealing surface in which an asymmetrical second magnetic element is located (col. 4, lines 3-21). The second magnetic element is laterally moveable within the chamber (i.e., it is said to be a "floating magnet") for alignment with a first magnetic element which is fixably secured relative to the door and positioned inside the gasket member (30).

It can be seen, therefore, that Tenhundfeld et al. does not disclose an arrangement in which elements corresponding to the "gasket portion" (86) of the Applicant's invention are positioned between thermal breakers (or functional equivalents thereof) which would correspond to the thermal breakers (76, 88) in the Applicant's invention. Instead, in Tenhundfeld et al., a contact surface (44) mates with a gasket member (30) with collapsible air spaces (32, 34), as well as the first magnet element (36) therein.

In Tenhundfeld et al, the contact surface (44) is included in a thermal breaker assembly (40) which is described as being "primarily formed of insulative materials to prevent or slow the transmission of heat" (col. 3, lines 27-29). However, the gasket assembly (28) in Tenhundfeld et al. does not appear to include a thermal breaker portion. In view of this, the Applicant submits that the invention as defined in the revised claim 24 is not anticipated by Tenhundfeld et al.

Claim Rejections – 35 U.S.C. §103(a)

Claims 2-5 and 13-18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rand et al. in view of U.S. Patent No. 5,199,273 (Silva et al.).

The Examiner's comments in this regard were as follows, in part:

Rand discloses applicant's basic inventive concept, a modular refrigeration unit for use in a refrigeration cabinet, having a gasket assembly (150, FIG. 2), said assembly comprising a rubber (col. 5, lines 47-48) gasket portion (146 and 148, FIG. 2), substantially as claimed with the exception of specifically stating that the gasket assembly is located on the modular refrigeration unit, said assembly comprising a thermal breaker embedded in said unit and the use of at least three flexible, rubber vanes to form an air-tight seal. Silva shows a gasket assembly located on the modular refrigeration unit (60, FIG. 7), said assembly comprising a thermal breaker (36, FIG. 5), embedded in said unit to be old in the refrigeration art.

As indicated above, the Applicant's gasket assembly is best shown in Figs. 7, 8A, and 8B. As discussed above, the horizontal movement of the modular refrigeration unit exemplified by arrow X in Fig. 6A (i.e., transverse to the bulkhead assembly) into the opening positions a gasket portion (86) between two thermal breakers (76, 88) when the bulkhead assembly is in the opening.

In contrast, Silva et al. does not disclose a flexible gasket portion which is positioned between thermal breakers. As can be seen in Fig. 7 of Silva et al., the gasket assembly (60) does not cooperate with or engage with the thermal breaker (36).

As can also be seen in Fig. 6 in Silva et al., a refrigeration unit is disclosed therein which includes a thermal breaker (58), which engages another thermal breaker (40) (or is positioned adjacent to the thermal breaker (40)) when the modular refrigeration unit is in position. A flexible tip portion (44) protrudes inwardly and upwardly from the breaker

strip (40) (col. 4, lines 16-28). Also, a leg (60) which is flexible extends outwardly at the top of the breaker strip (58) (col. 4, lines 29-46).

In Silva et al. the breaker strips (40, 58) and the flexible members (44, 60) at the top and bottom of the breaker strips respectively are said to result in an air-tight seal (col. 4, lines 47-53).

From the foregoing, therefore, it can be seen that flexible elements which might be said to correspond to the gasket portion (86) of the Applicant's invention – namely, the elements identified as 44 and 60 in Silva et al. – are not positioned between the two breaker elements in Silva et al. unlike the Applicant's invention.

The Applicant also submits that the invention as defined in claims 2-5 and 13-18 is neither taught nor suggested by Rand et al., as the device disclosed in Rand et al. could not be used in a bottom-mounted configuration.

The Applicant therefore submits, for the reasons set out above, that the Applicant's invention is neither taught nor suggested by Rand et al. in view of Silva et al.

The Examiner also rejected claim 20 under 35 U.S.C. §103(a) as being unpatentable over Rand et al. in view of U.S. Patent No. 5,732,565 (Ramakrishnan et al.).

The Examiner's comments in this regard were, in part, as follows:

Rand discloses applicant's basic inventive concept, a modular refrigeration unit for use in a refrigeration cabinet, having a grille (see FIG's. 3 and 4) positioned above the condenser chamber, an intake (244, FIG. 4) and a set of louvers (246, FIG. 4) for outtake, substantially as claimed with the exception of using a first set of louvers at the intake. Ramakrishnan shows a first set of louvers (106, FIG. 1B) at the intake to be old in the refrigeration art.

In view of the Examiner's comments, claim 20 is amended to include wording indicating that the first and second sets of louvers function to substantially prevent immediate recirculation of air into the condenser chamber. This is disclosed in Fig. 24, and described in paragraph 0087.

Neither of Rand et al. nor Ramakrishnan et al. discloses a structure similar to that defined in revised claim 20. Accordingly, the Applicant submits that the invention as defined in revised claim 20 is neither taught nor suggested by Rand et al. nor Ramakrishnan et al.

New Claims

New claims 25-30 are submitted to better define the invention.

Claim 25 is directed to a modular refrigeration unit which is adapted for movement substantially transverse to the bulkhead body portion for engaging the gasket assembly with the mating surface around the opening to form a substantially air-tight seal between the condenser chamber and the main chamber. Support for claim 25 can be found in Figs. 1D, 1E, 2, 3, and 6A, as well as paragraphs 0064-0069 and 0077-0080 in the Applicant's application.

Claim 26 is dependent on claim 25 and is directed to a modular refrigeration unit in which the gasket assembly includes a bulkhead thermal breaker portion mounted to the bulkhead periphery. Claim 26 defines the invention as including certain elements in terms similar to those used in claims 3 and 4. However, claim 26 also defines the modular refrigeration unit as being adapted for movement into the opening in a direction substantially transverse to the bulkhead body portion.

Claim 27 is directed to a refrigerator including, in addition to other elements, a modular refrigeration unit defined in substantially the same terms as the modular refrigeration unit defined in claim 25. A refrigeration cabinet is defined in claim 27 in terms similar to those used in claim 8.

Claim 28 is directed to a refrigerator defined as including a modular refrigeration unit having features defined in substantially the same terms as the features of the modular refrigeration unit defined in claim 26.

Claim 29, which is dependent on claim 27, is directed to a refrigerator including certain elements defined in substantially the same terms as can be found in claim 9.

Claim 30 is dependent on claim 20, and is "a third set of louvers" which refers to the intake louvers (141) positioned along a bottom surface (145) of a panel assembly (136). As described in paragraphs 0088 and 0089 (and as shown in Figs. 24 and 25) of the Applicant's application herein, the third set of louvers (141) provides another route (i.e., in addition to the intake louvers (132)) through which an air flow may enter the condenser chamber so as to minimize the risk of immediate recirculation of air into the condenser chamber.

Claims 25-30 are believed to be patentable in view of the prior art references cited by the Examiner.

The Commissioner is authorized to charge the applicable fees to the Applicant's agent's account, deposit account no. 501613.

On the basis of the enclosed documents and the foregoing remarks, reconsideration of this application and its early allowance are requested.

Respectfully submitted,
HABCO BEVERAGE SYSTEMS INC.



Per: Valentine A. Cottrill
Agent for the Applicant
Reg. No. 50,187

Date: September 2, 2005

Address: 50 Queen Street North, Suite 1020
Kitchener, Ontario N2H 6M2
Canada

Phone: (519) 575-7509

Fax: (519) 571-5009

Attachments

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Amendments to the Drawings:

The following drawings, as filed, were not acceptable: Figs. 1A, 1B, 1C, 1D, 1E, 2-5, 7, 8A, 8B, 9, 10, 12, 13, 16A, 16B, 18A, 18B, 22A, 22B, 23-26, 28, 29, 30A, 30B, 31A, 31B, 32, 33A, and 33B. The attached sheets of drawings include substitute drawings for Figs. 1A, 1B, 1C, 1D, 1E, 2-5, 7, 8A, 8B, 9, 10, 12, 13, 16A, 16B, 18A, 18B, 22A, 22B, 23-26, 28, 29, 30A, 30B, 31A, 31B, 32, 33A, and 33B. In Figs. 1A, 1B, 1C, 1D, 1E, 2-5, 7, 8A, 8B, 9, 10, 12, 13, 16A, 16B, 18A, 18B, 22A, 22B, 23-26, 28, 29, 30A, 30B, 31A, 31B, 32, 33A, and 33B, certain elements (circled in red) have been added or extended, as described in the Annotated Sheets.

Also, certain drawings filed on March 22, 2004 (which had been acceptable) were determined, by the Applicant, to require some minor corrections. These drawings are the following: Figs. 6A, 6B, 11, 14, and 15. Accordingly, the attached sheets of drawings include substitute drawings for Figs. 6A, 6B, 11, 14, and 15. In Figs. 6B, 11, 14, and 15, certain elements (circled in red) have been added or extended, as described in the Annotated Sheets. In addition, certain reference numerals have been added to Fig. 6A.

Attachments: Replacement Sheets
 Annotated Sheets Showing Changes

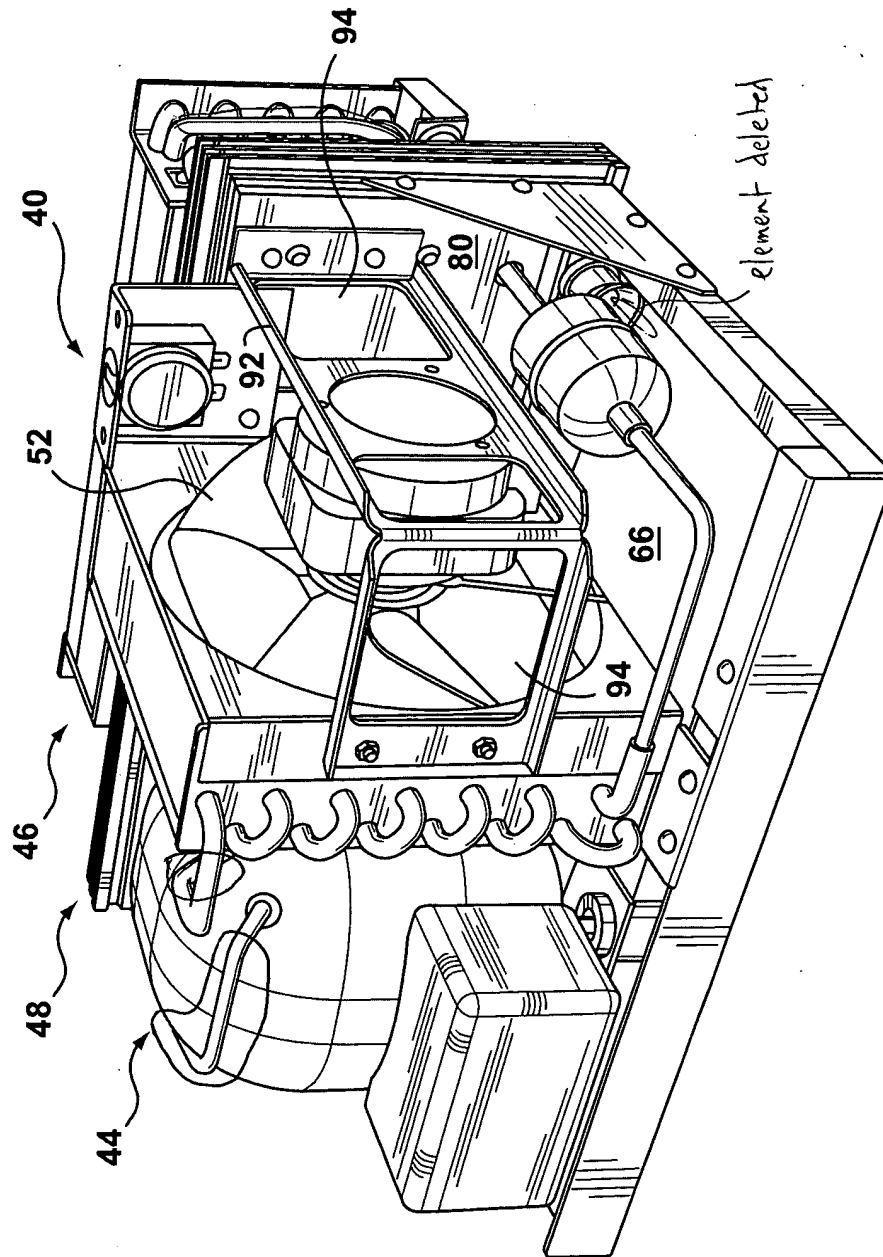


FIG. 1A

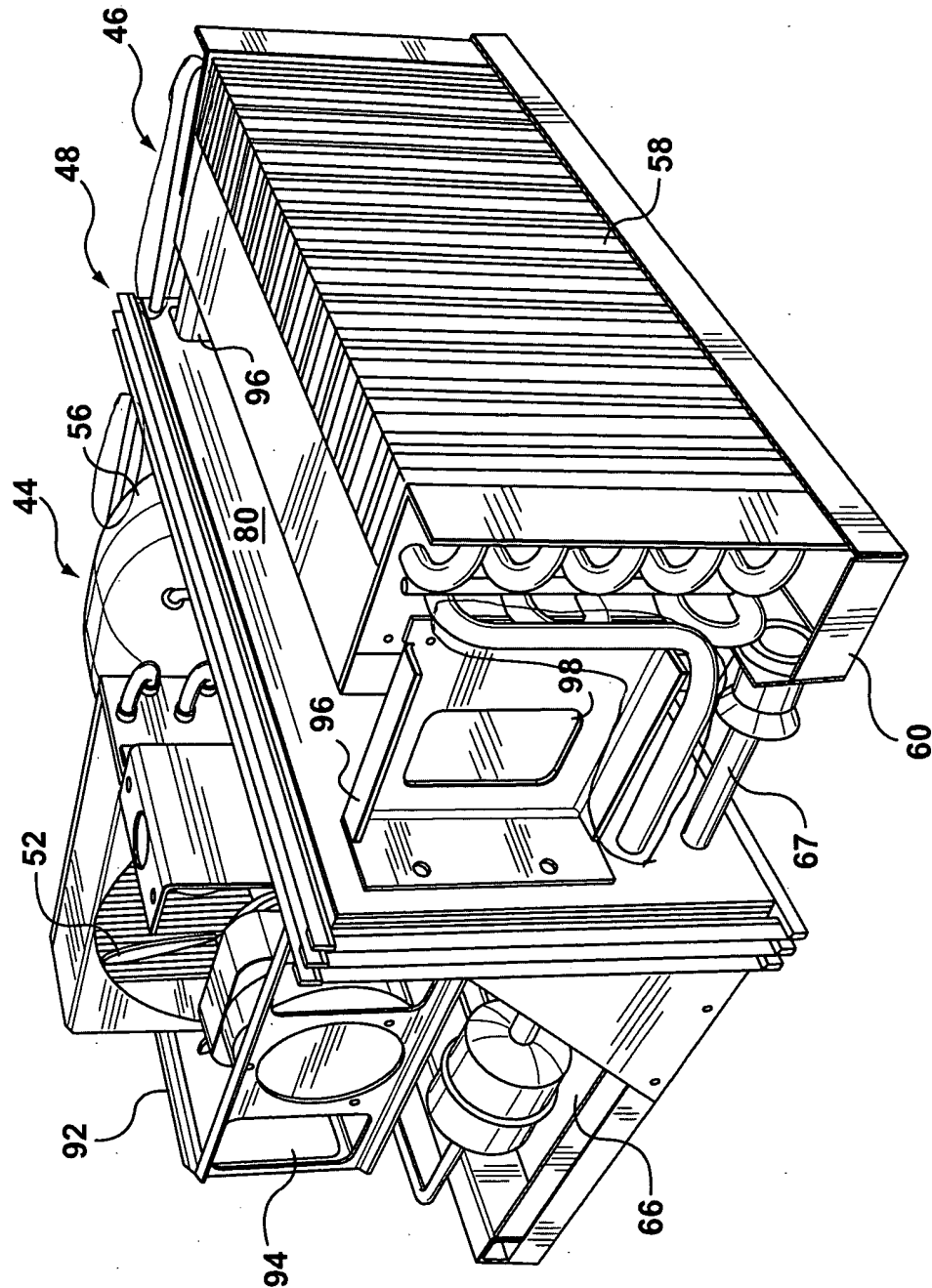


FIG. 1B

Appl. No. 10/687,749
Title: MODULAR REFRIGERATION UNIT AND REFRIGERATOR
Inventor: Fee et al.
Reply to Office Action of April 7, 2005
Annotated Sheet Showing Changes

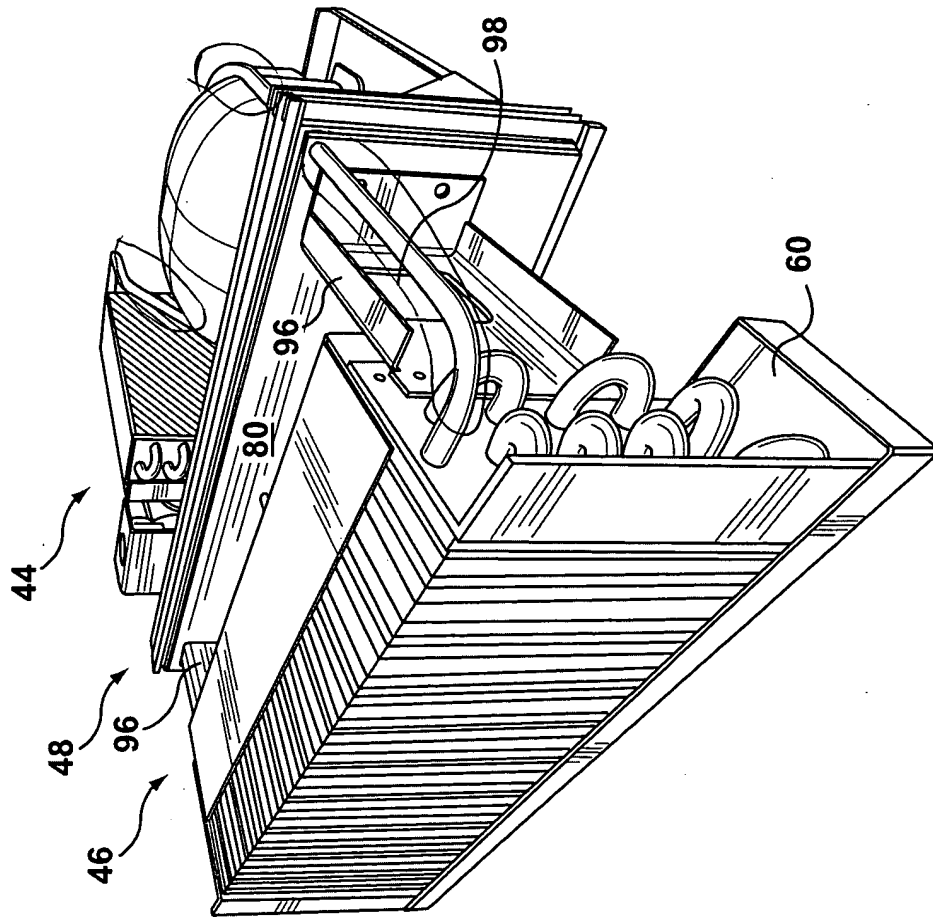


FIG. 1C

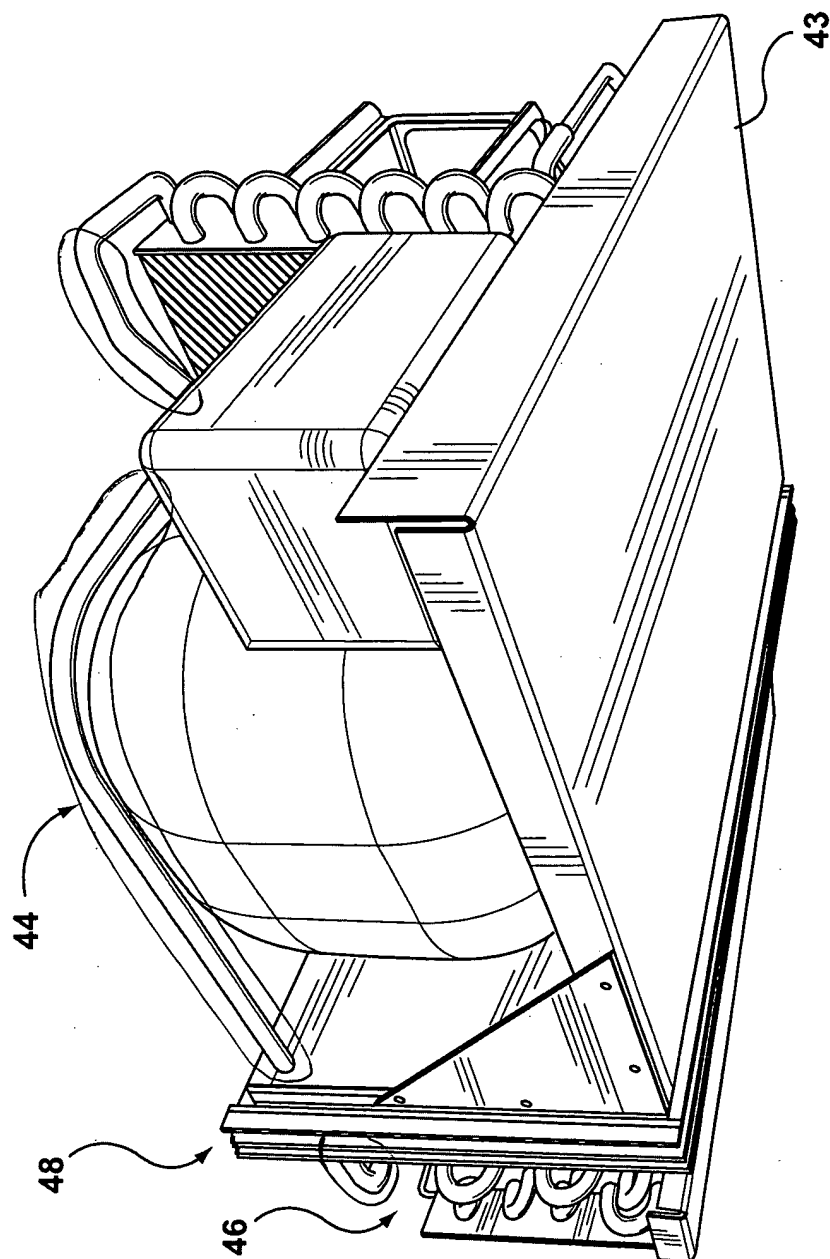


FIG. 1D

Appl. No. 10/687,749
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Inventor: Fee et al.
Reply to Office Action of April 7, 2005
Annotated Sheet Showing Changes

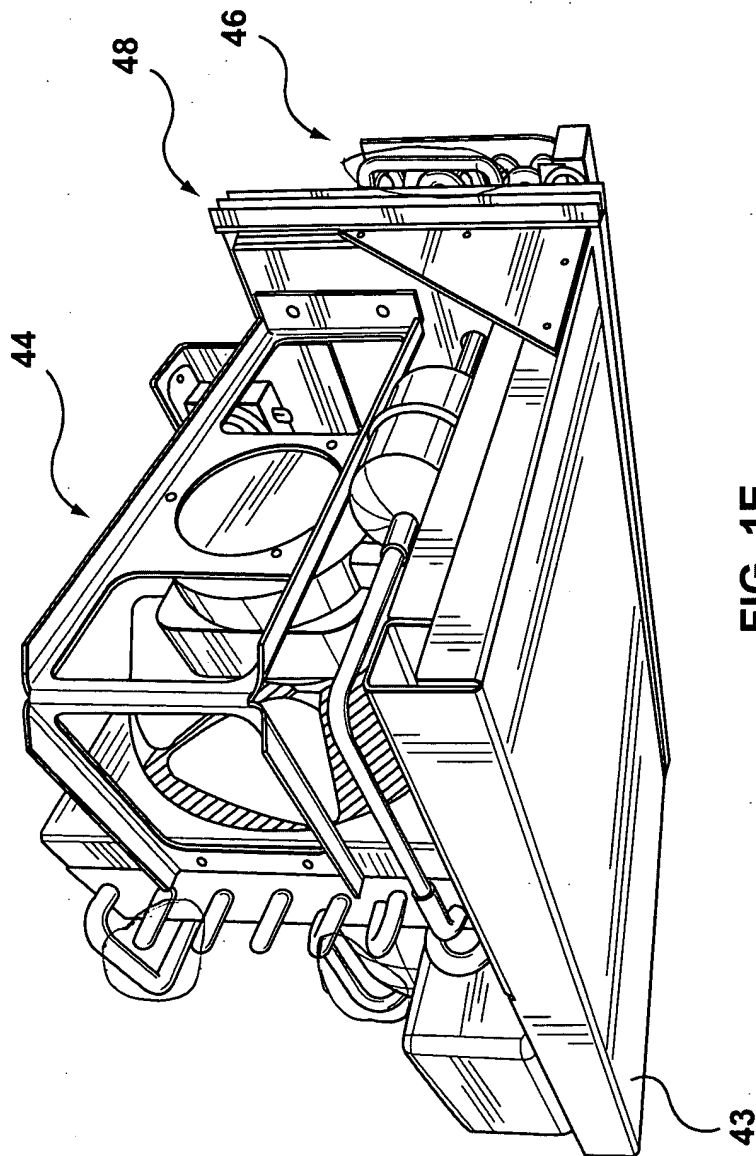
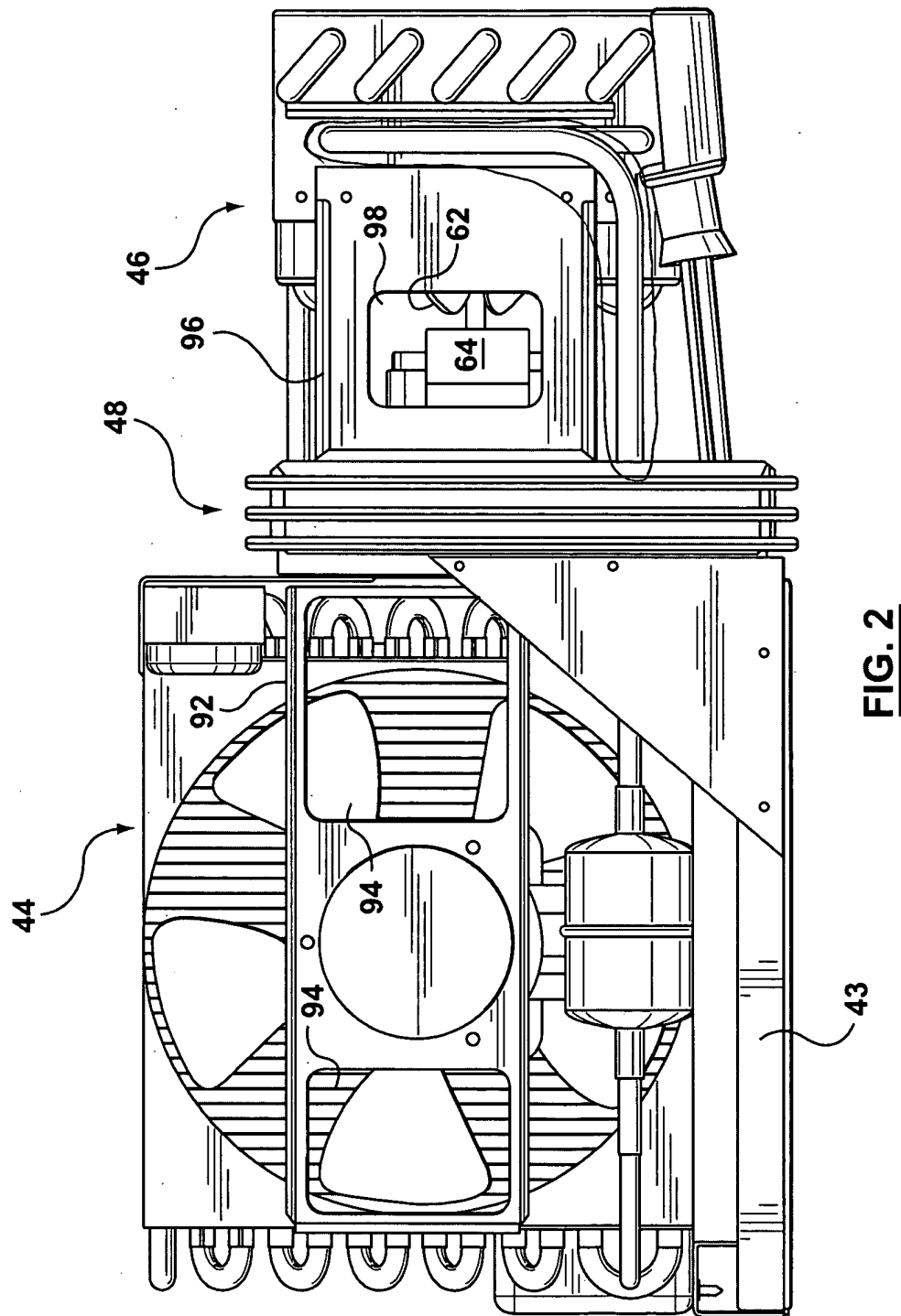
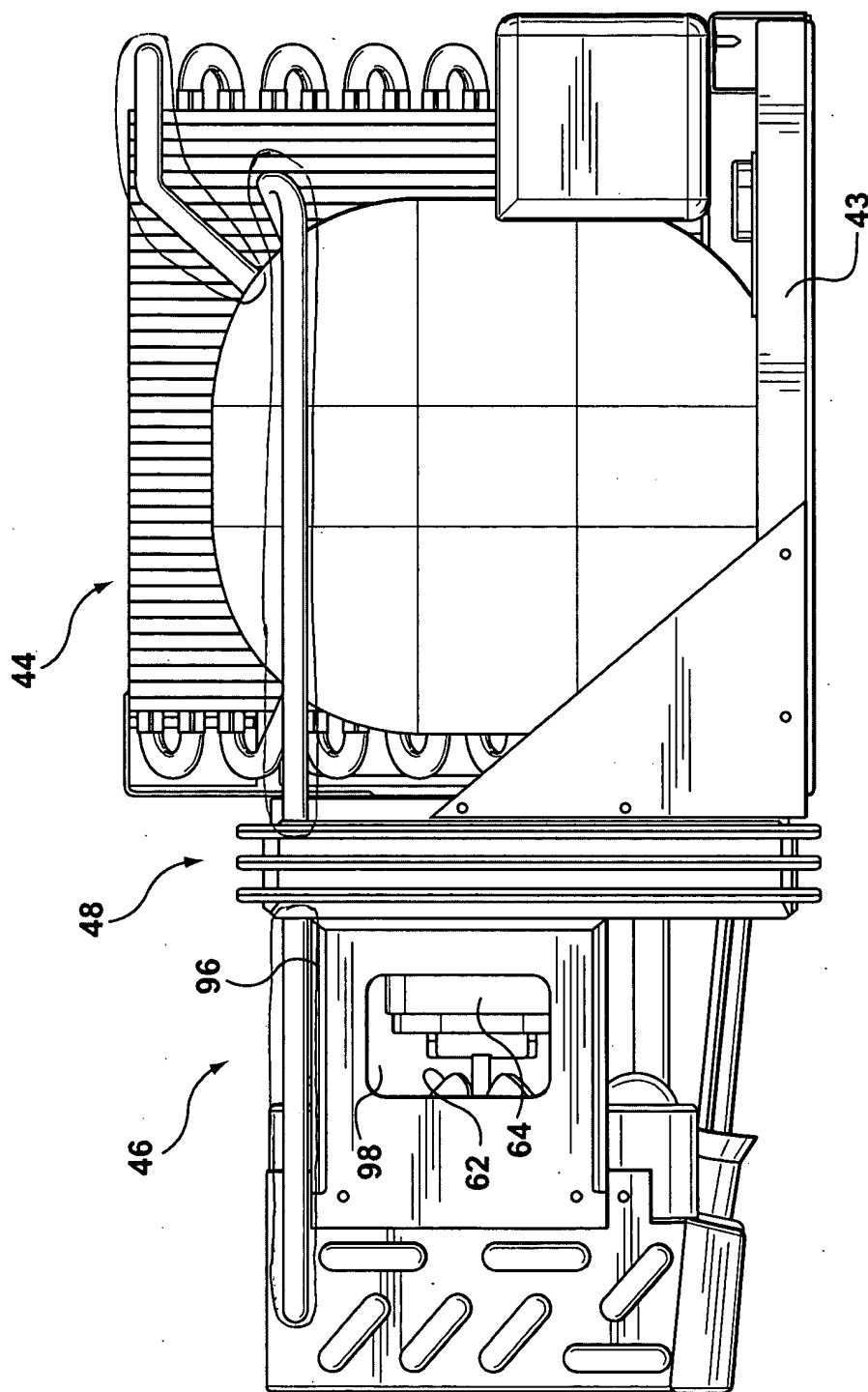


FIG. 1E





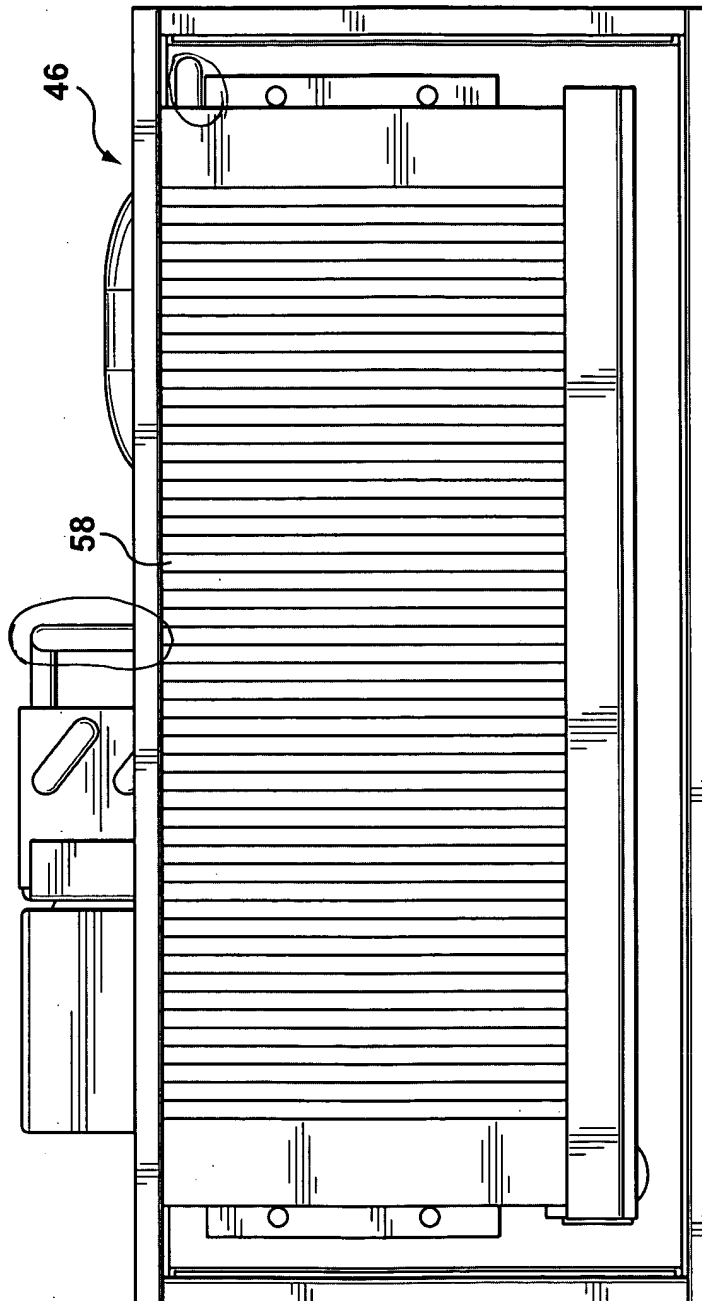
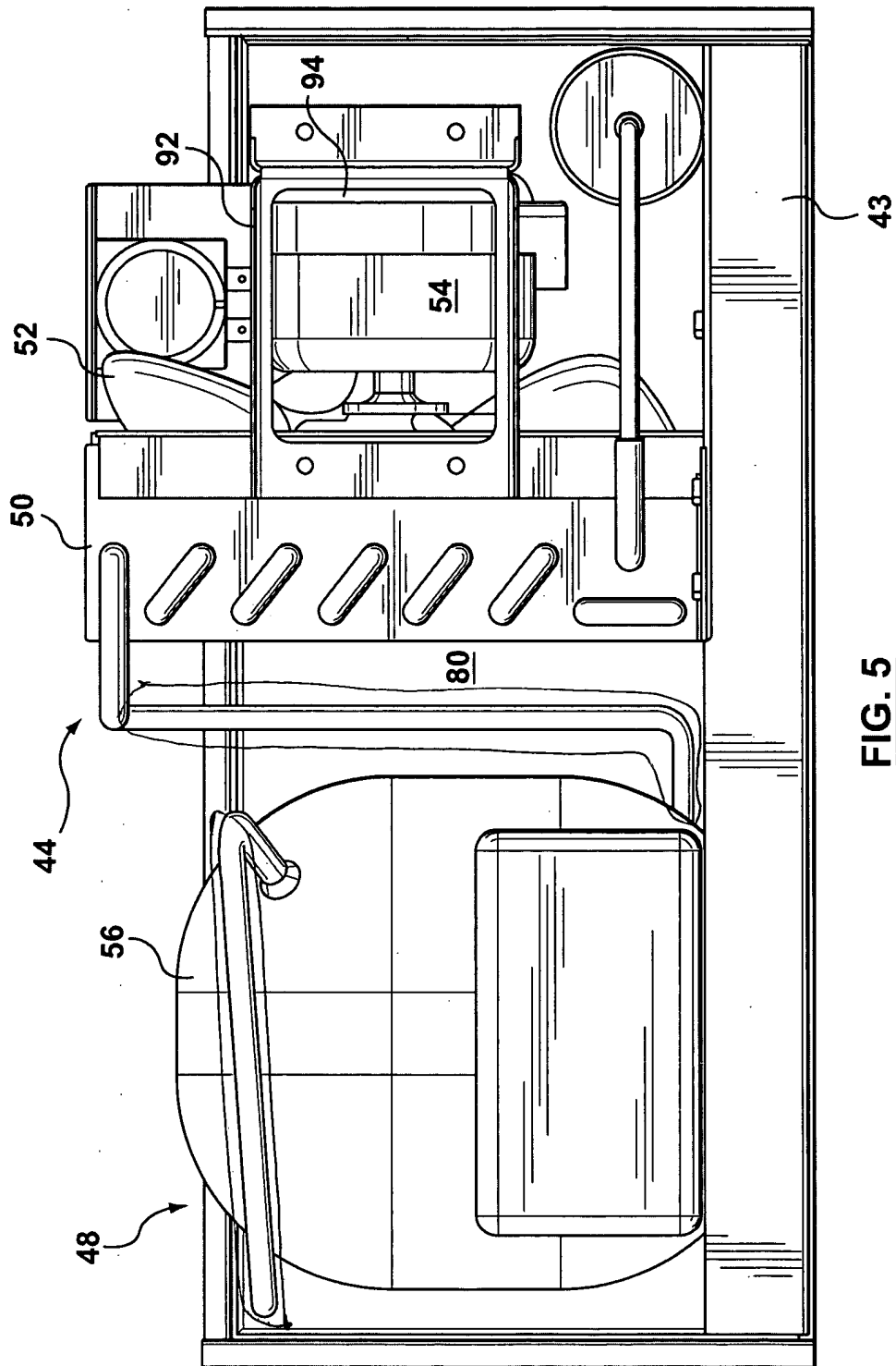
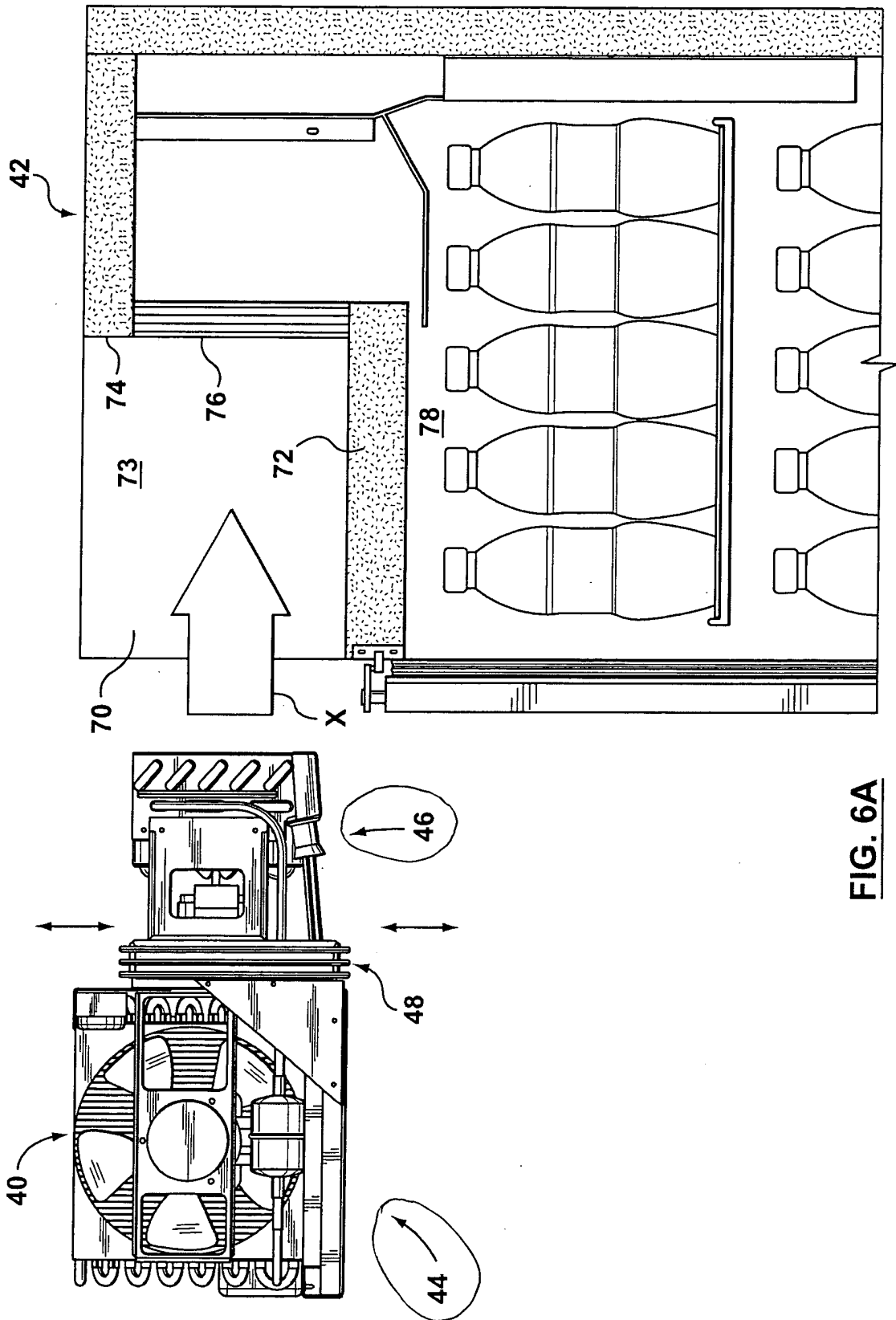


FIG. 4





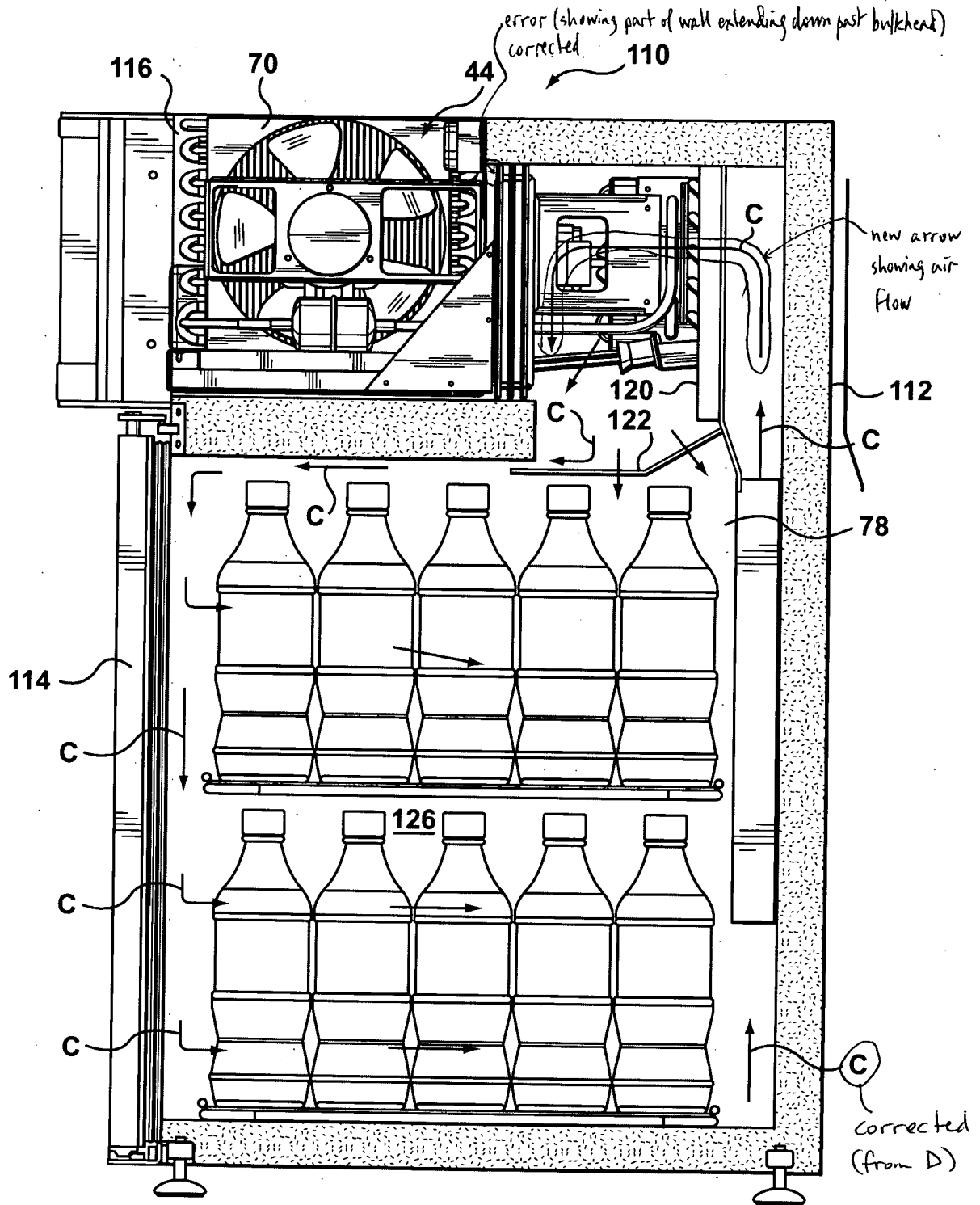


FIG. 6B

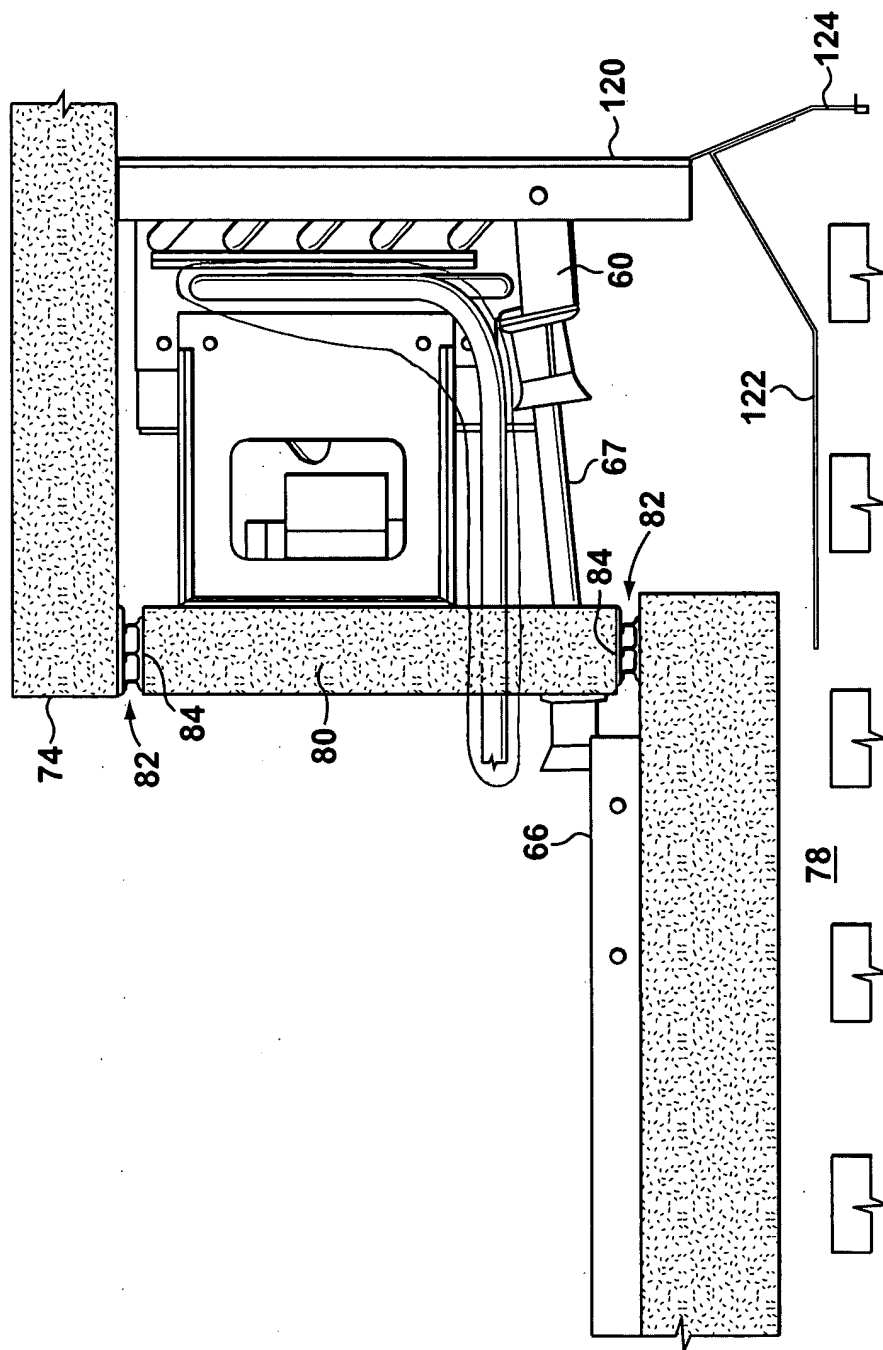


FIG. 7

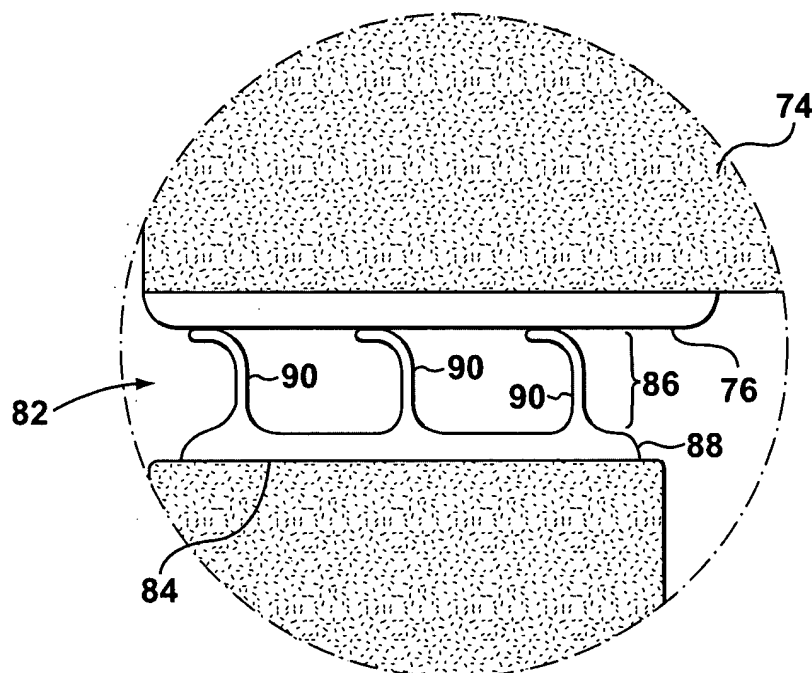


FIG. 8A

Appl. No. 10/687,749
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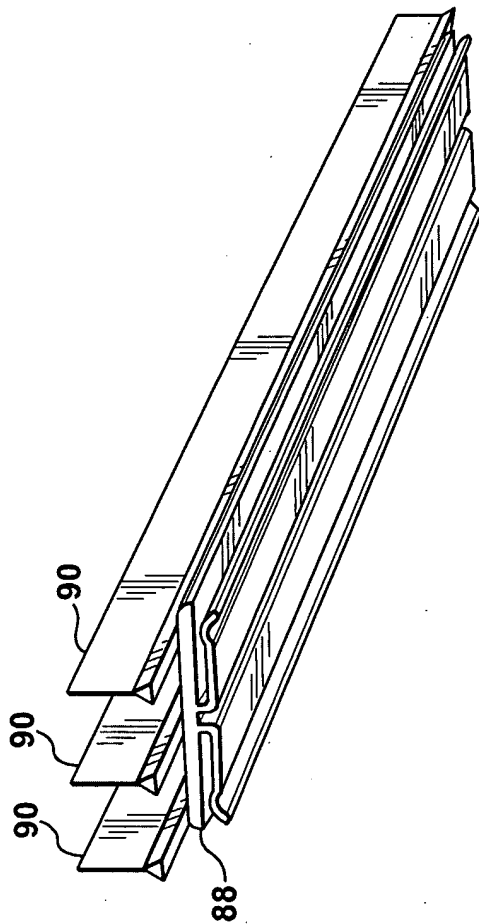


FIG. 8B

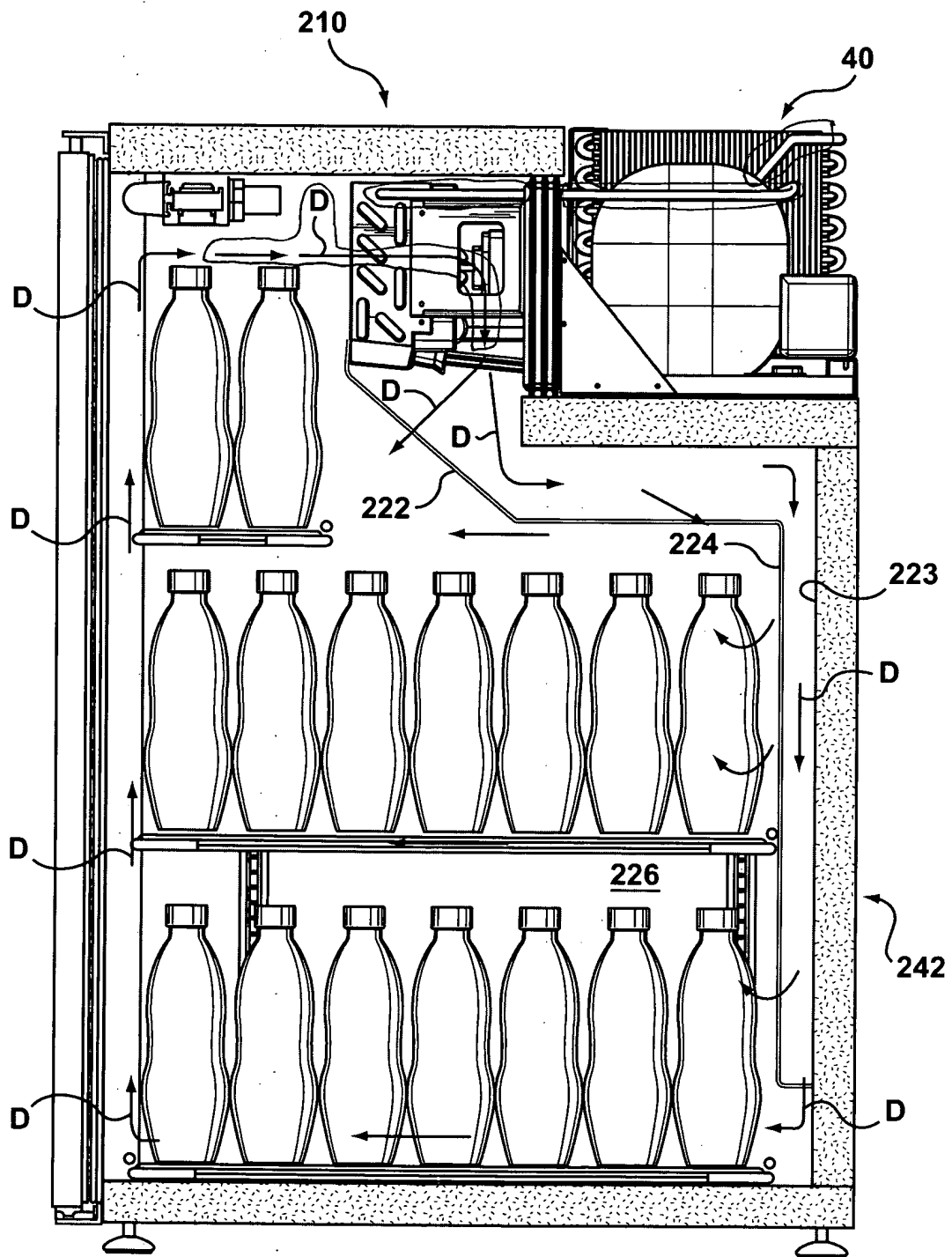


FIG. 9

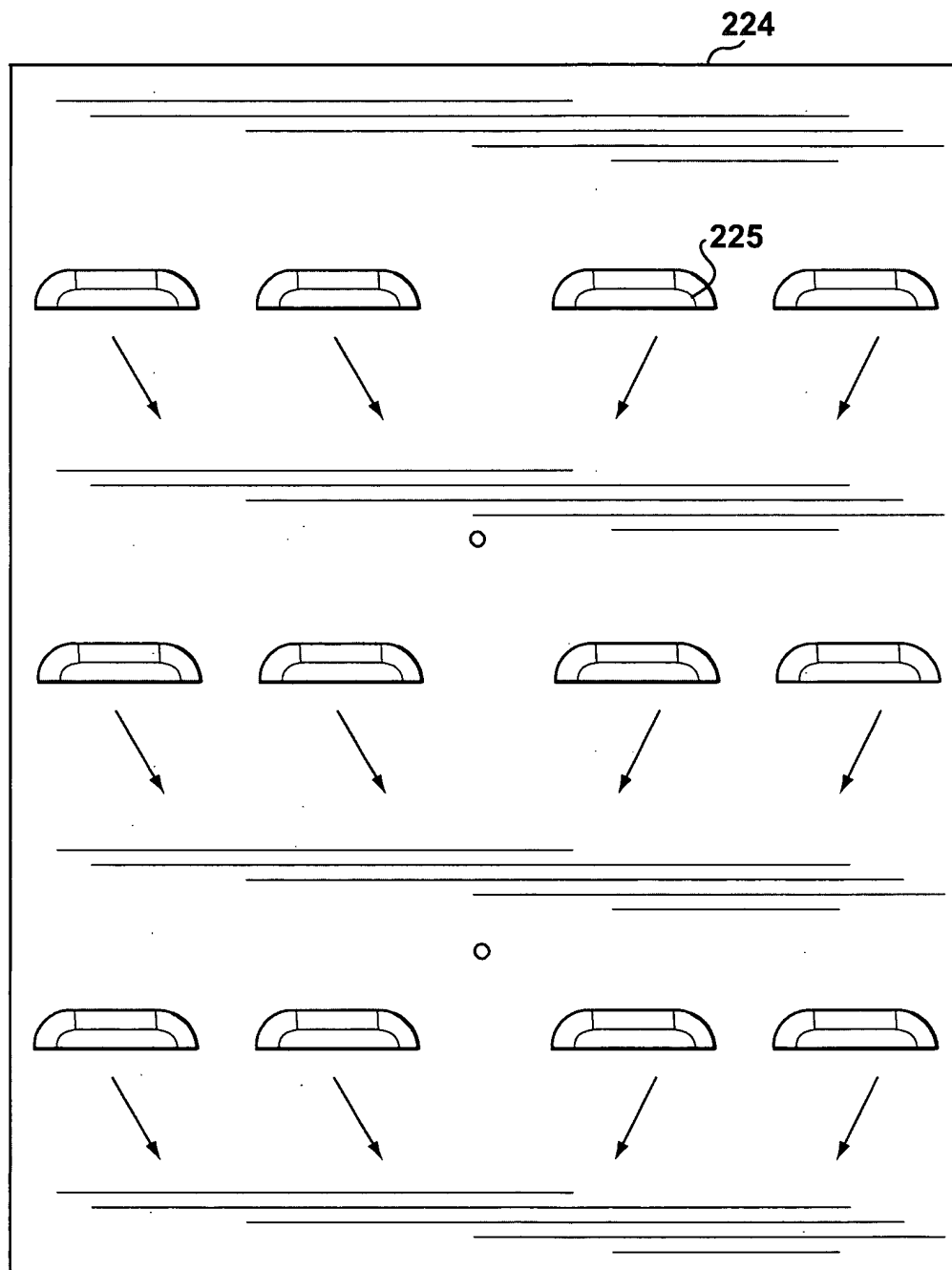


FIG. 10

Appl. No. 10/687,749
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Reply to Office Action of April 7, 2005
Annotated Sheet Showing Changes

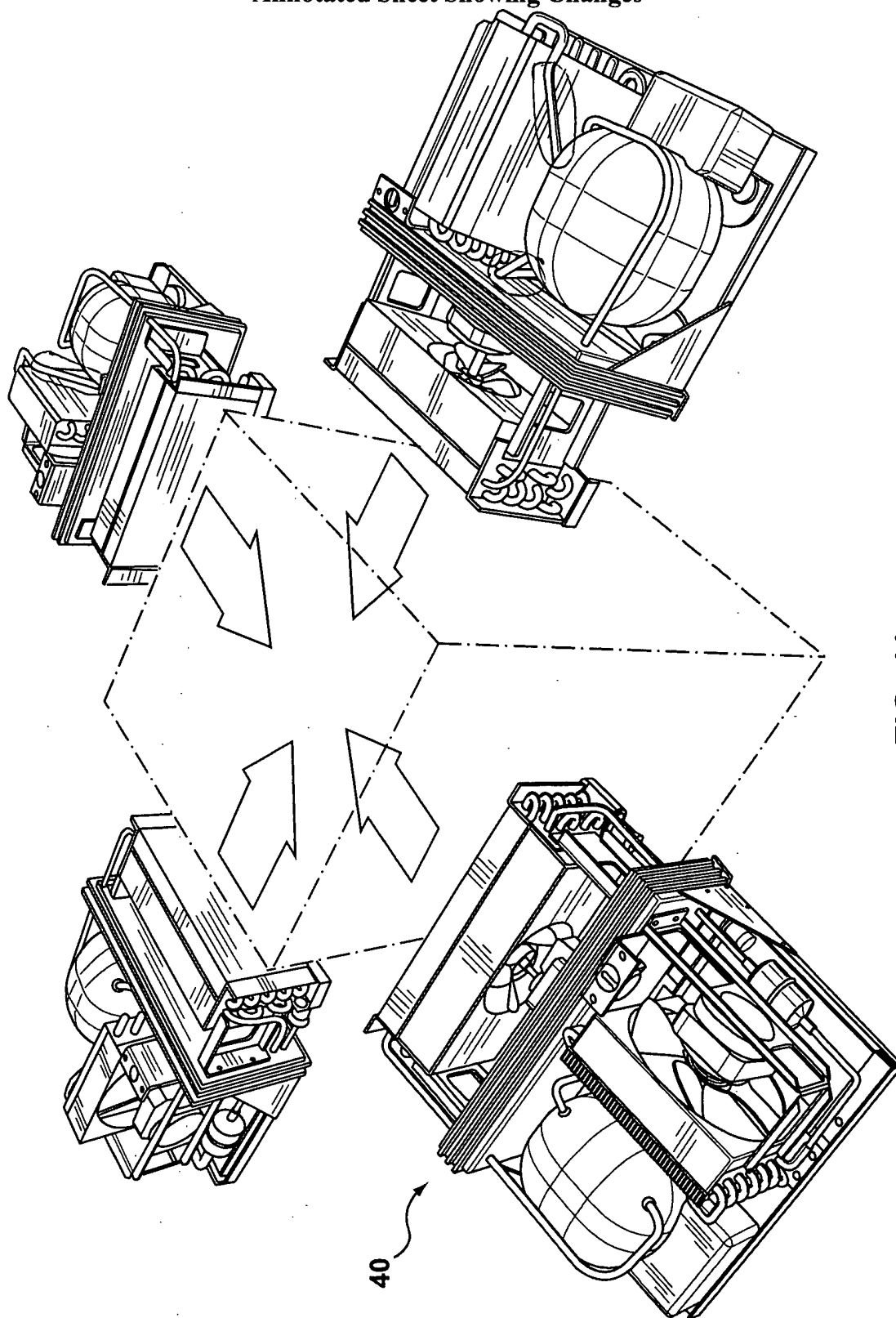


FIG. 11

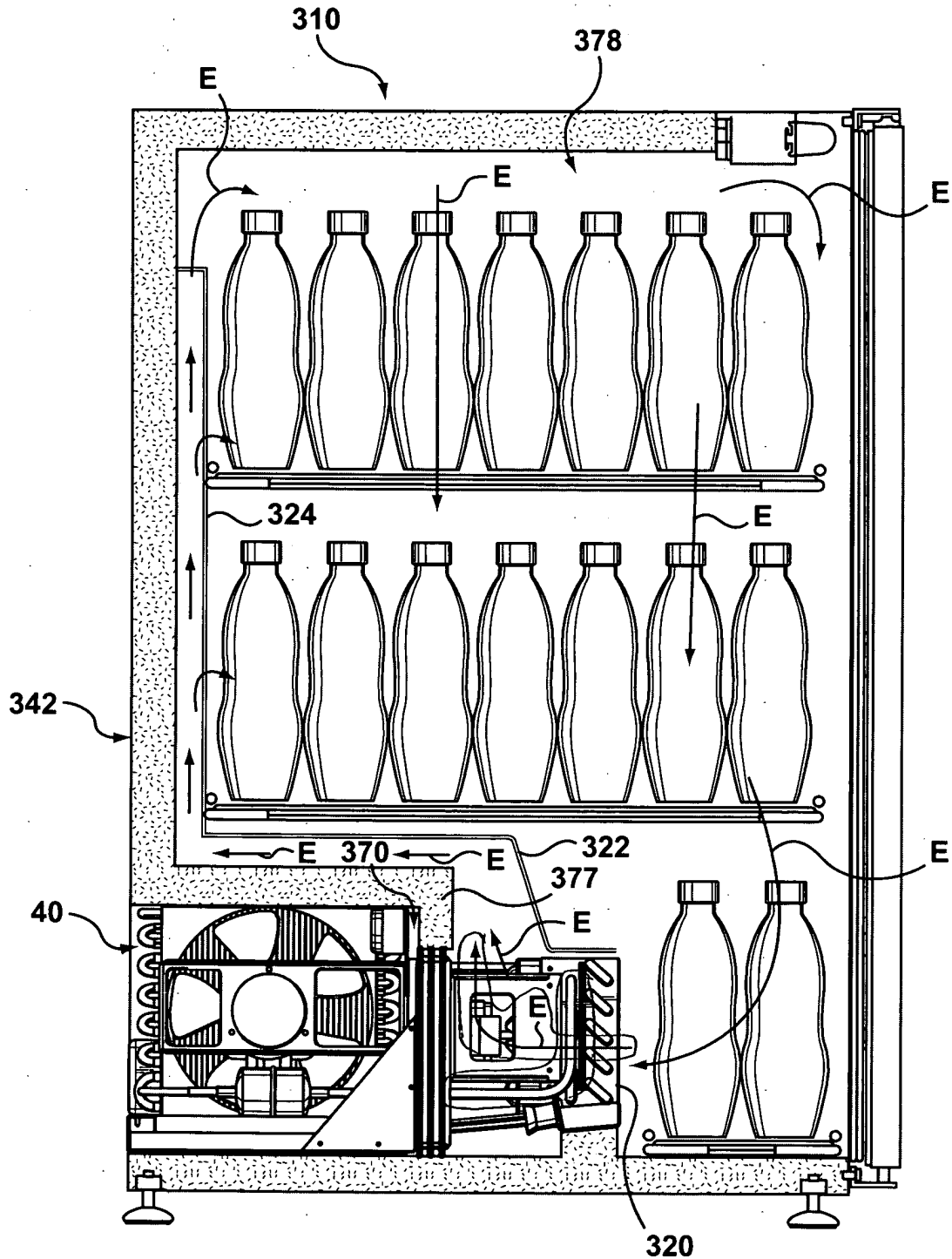


FIG. 12

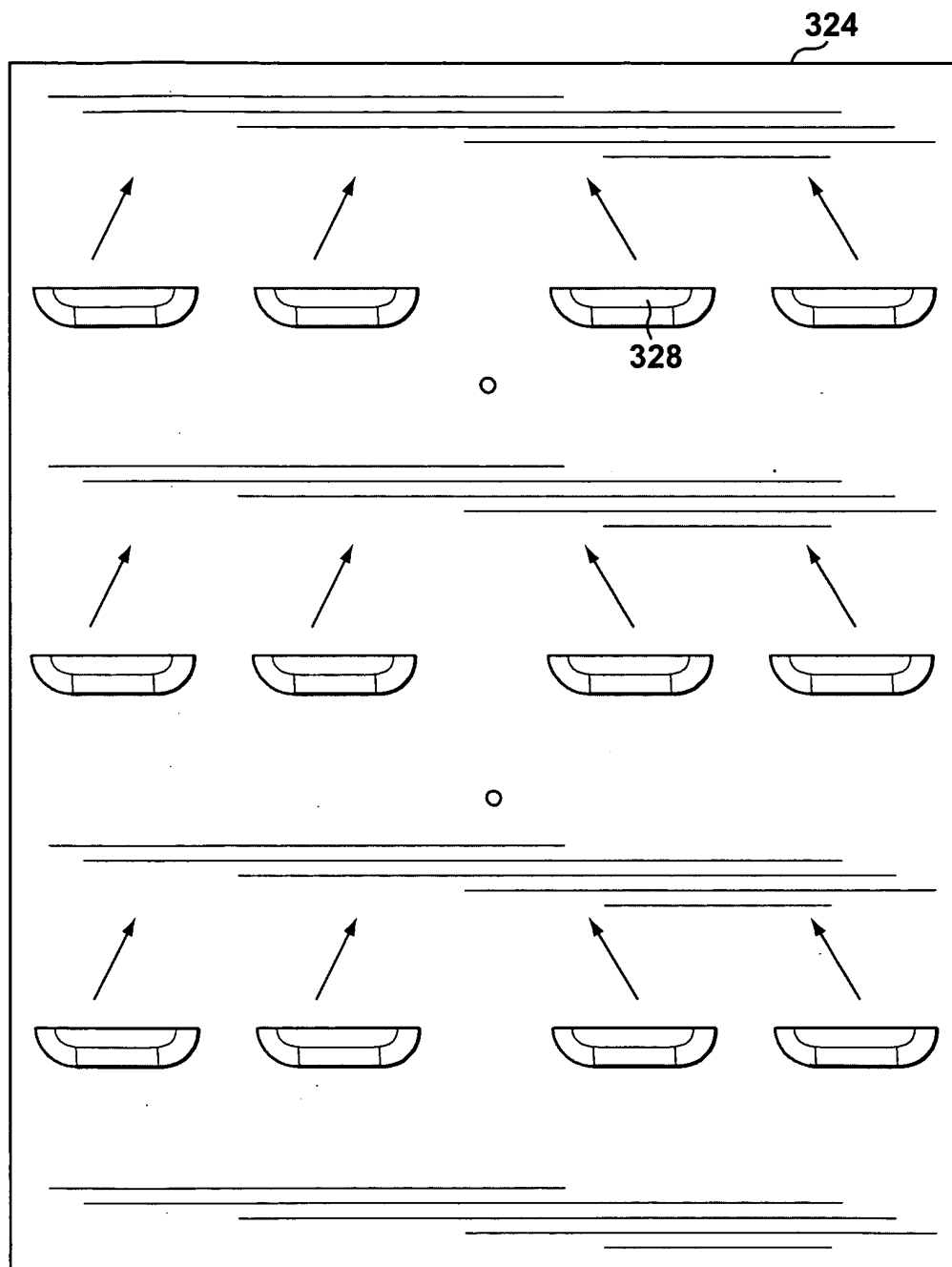


FIG. 13

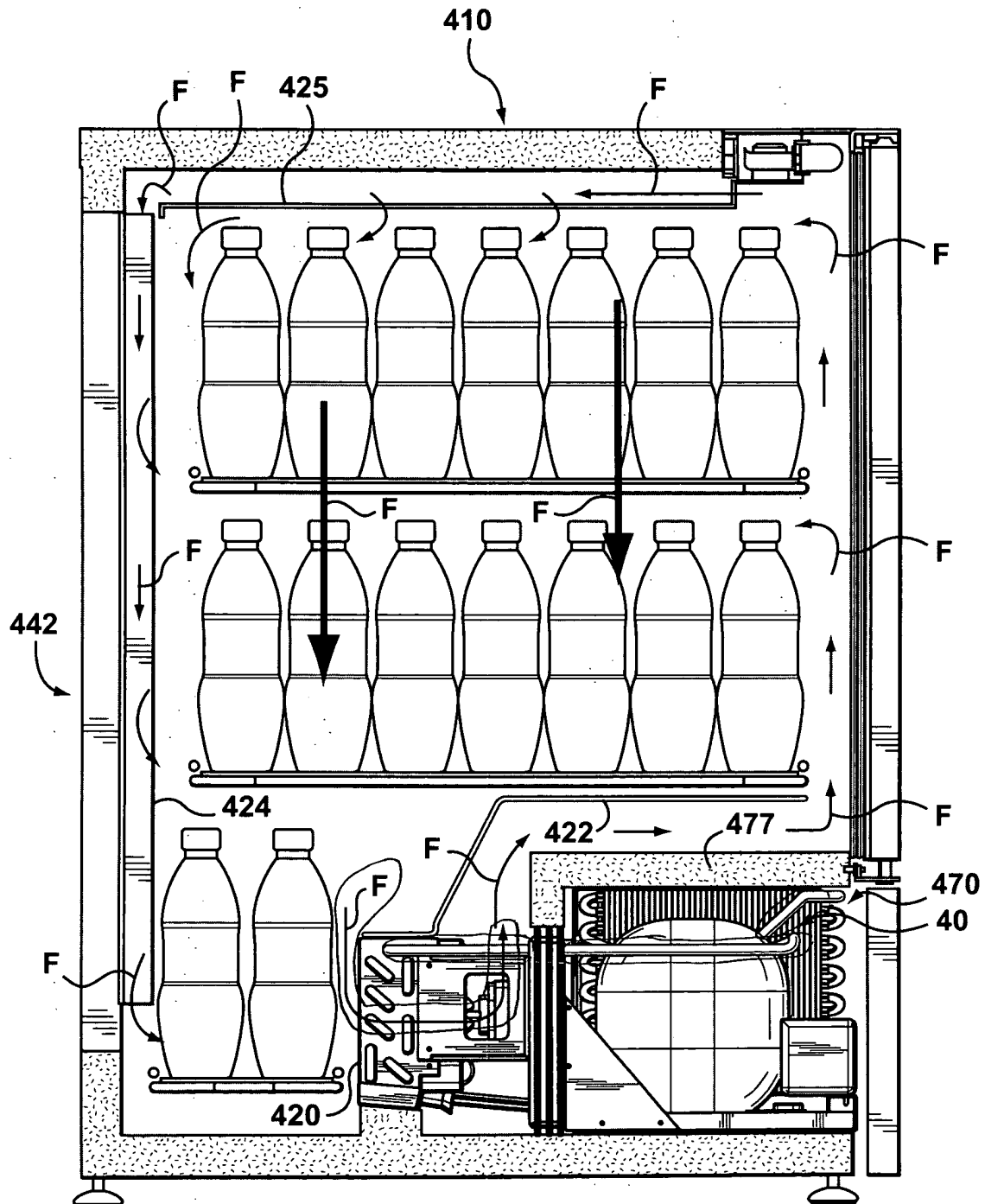
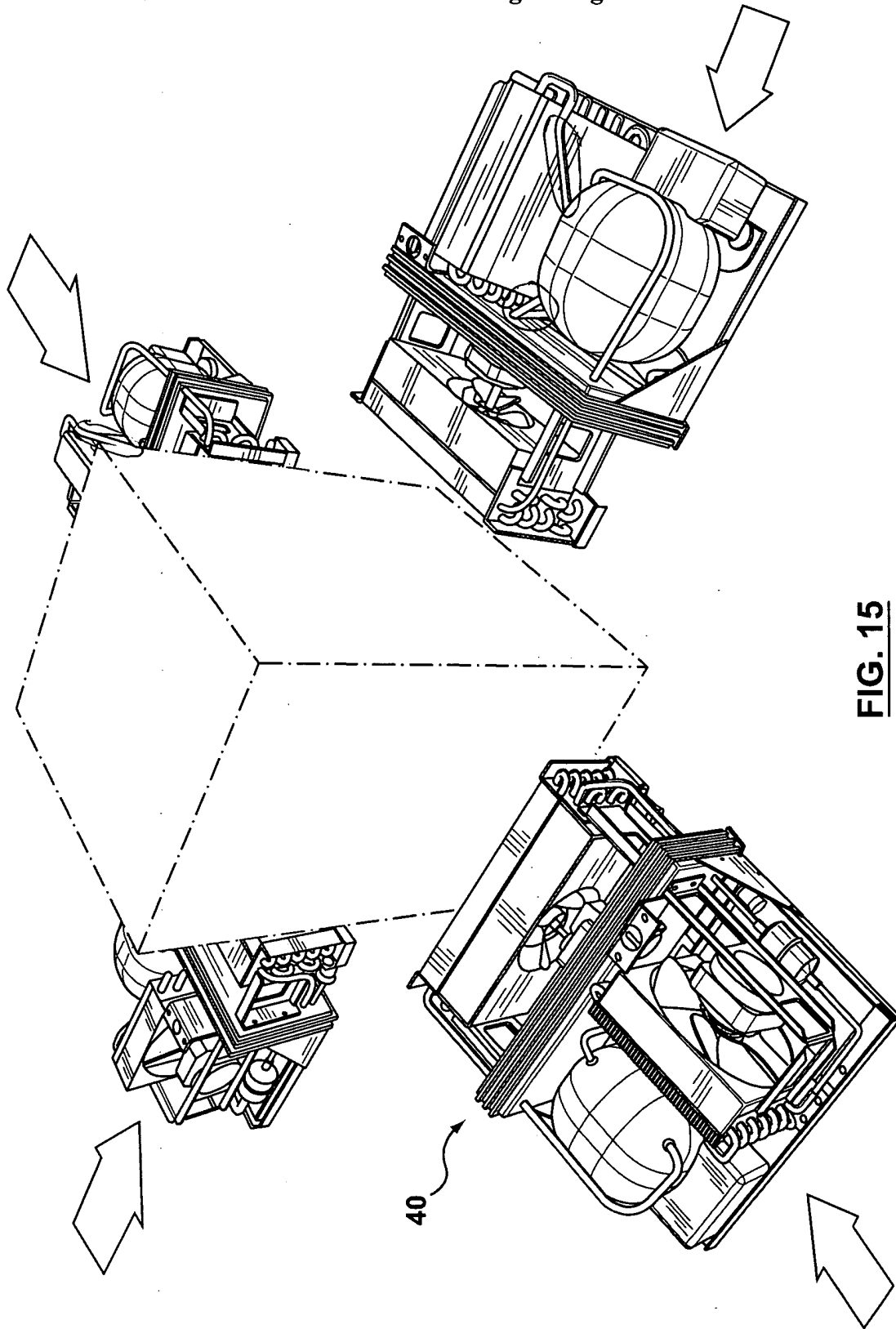


FIG. 14

Appl. No. 10/687,749
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Annotated Sheet Showing Changes



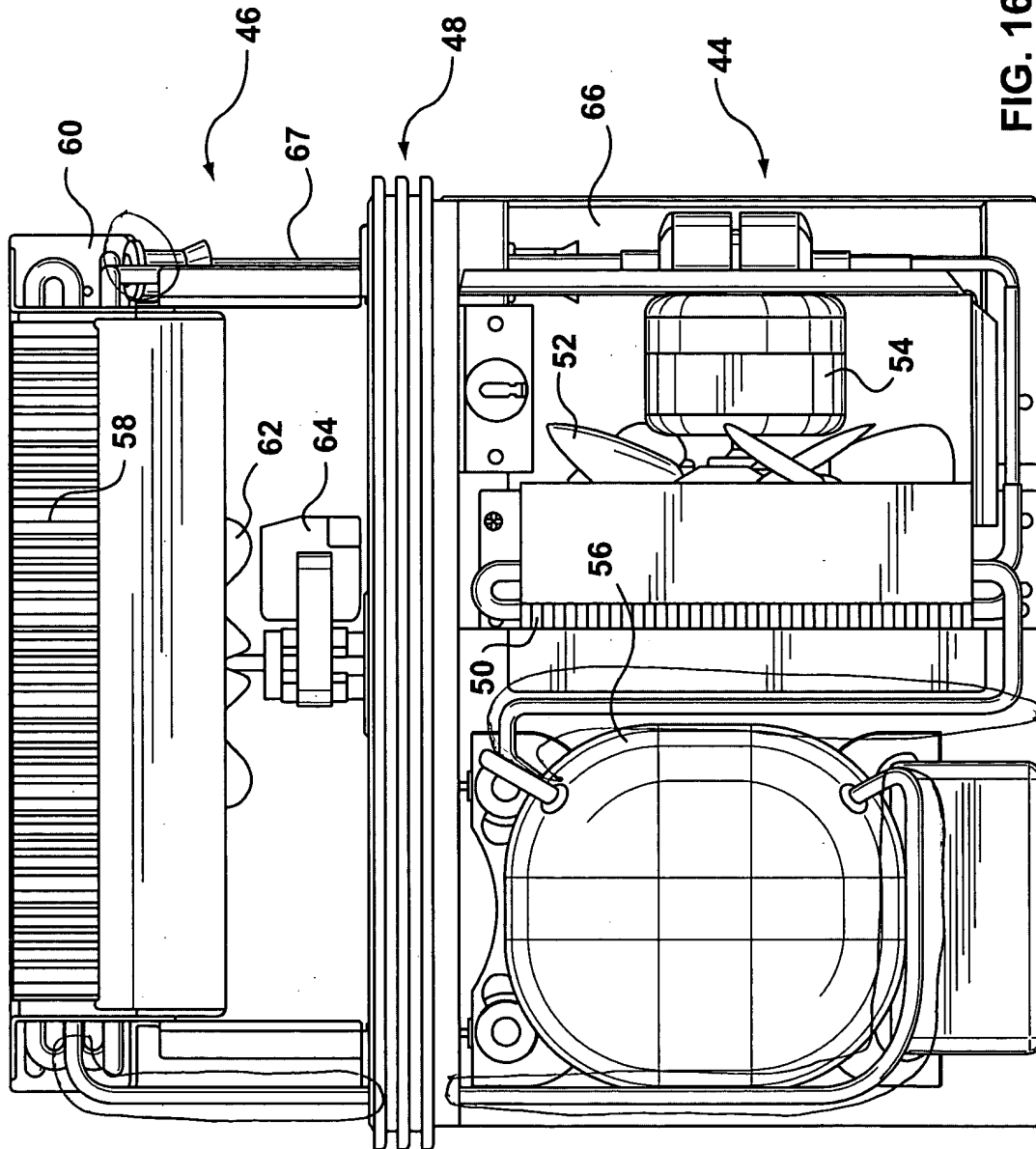


FIG. 16A

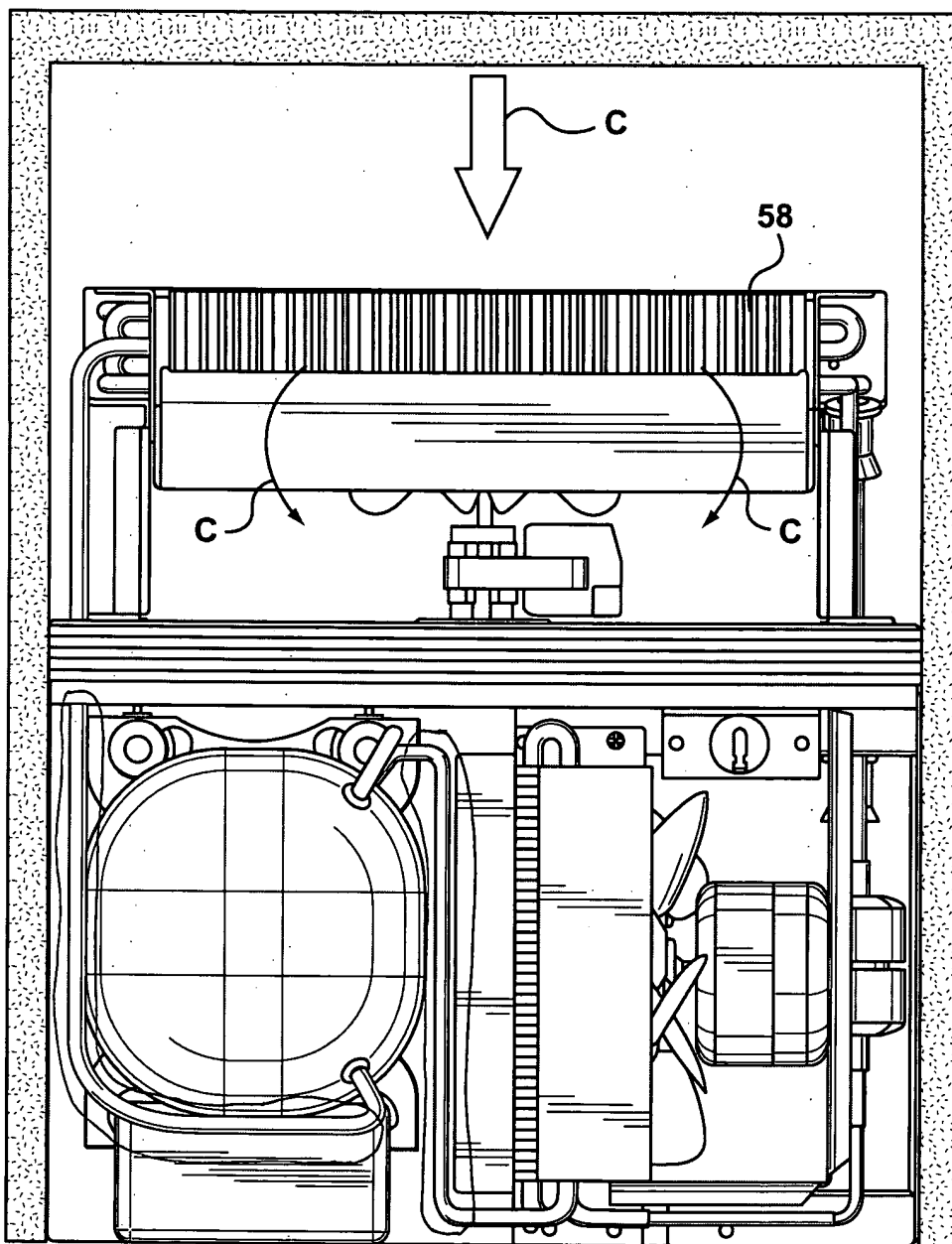


FIG. 16B

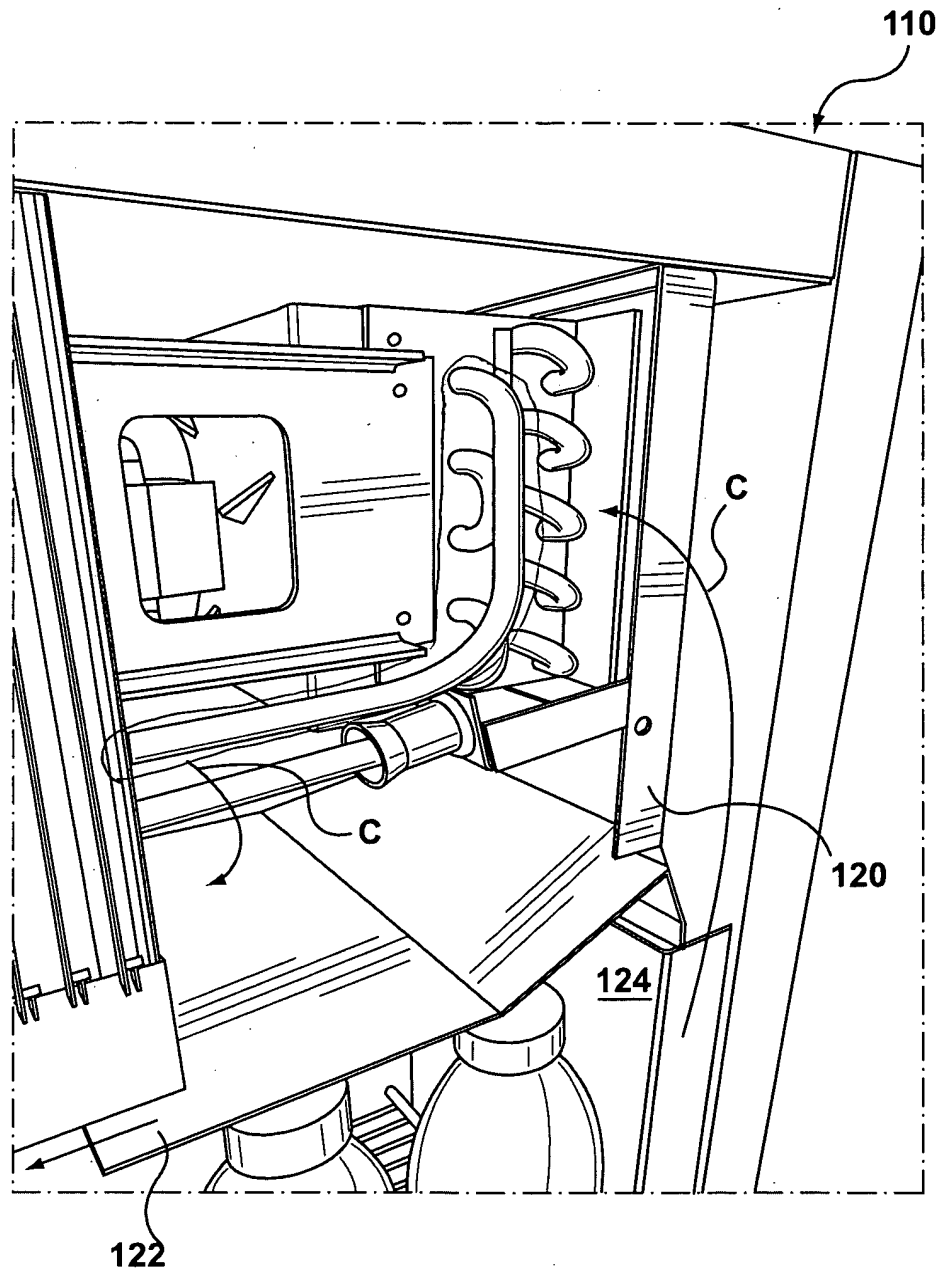


FIG. 18A

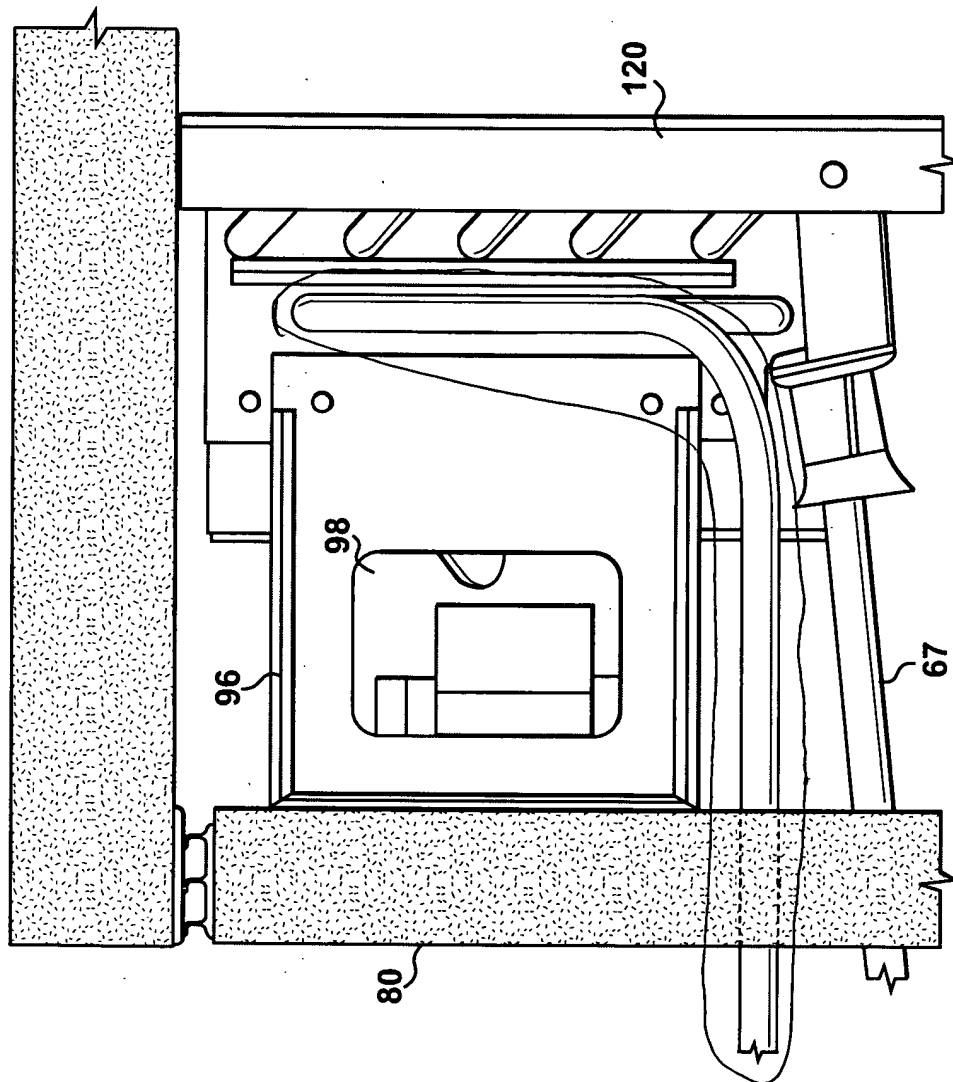


FIG. 18B

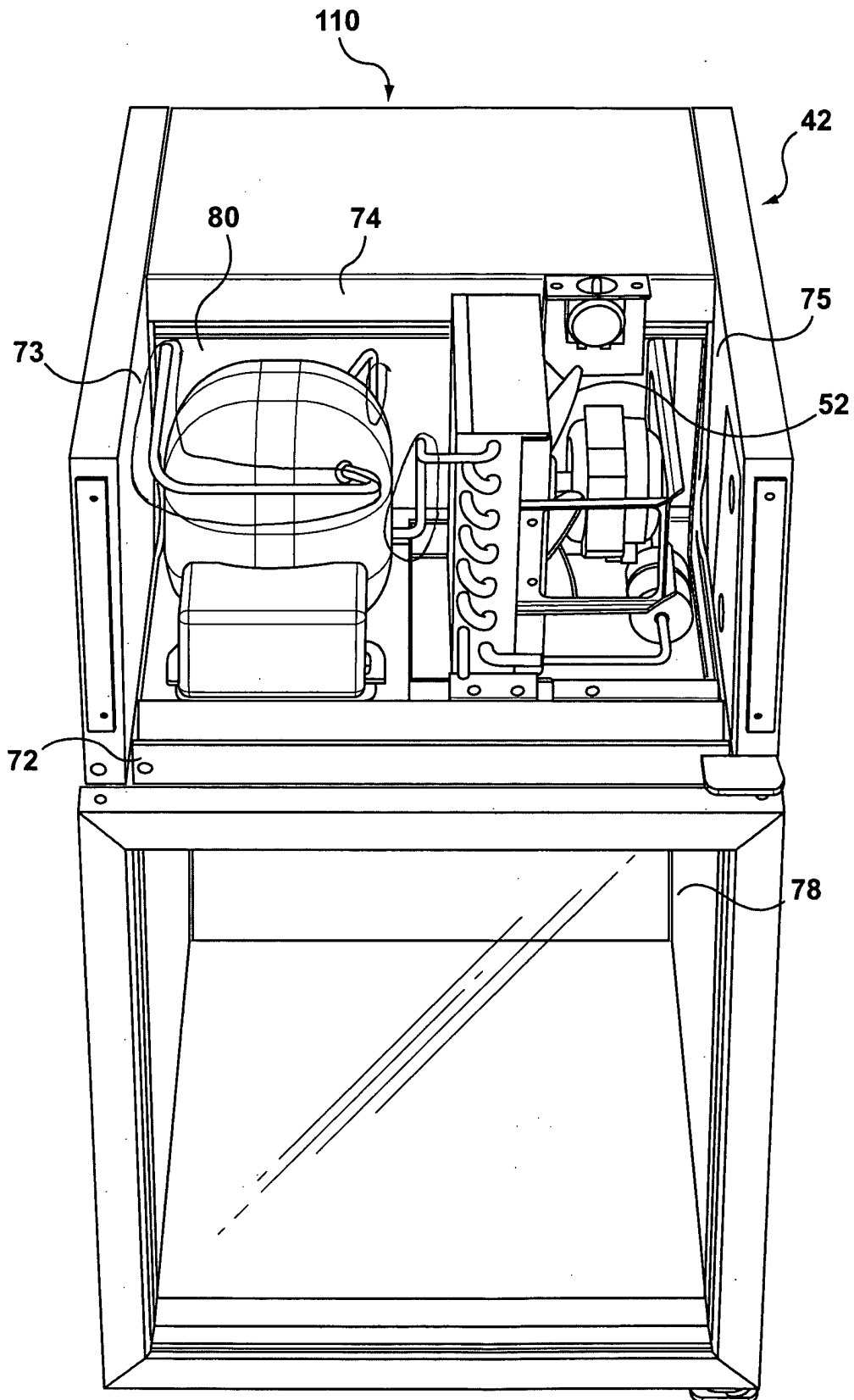
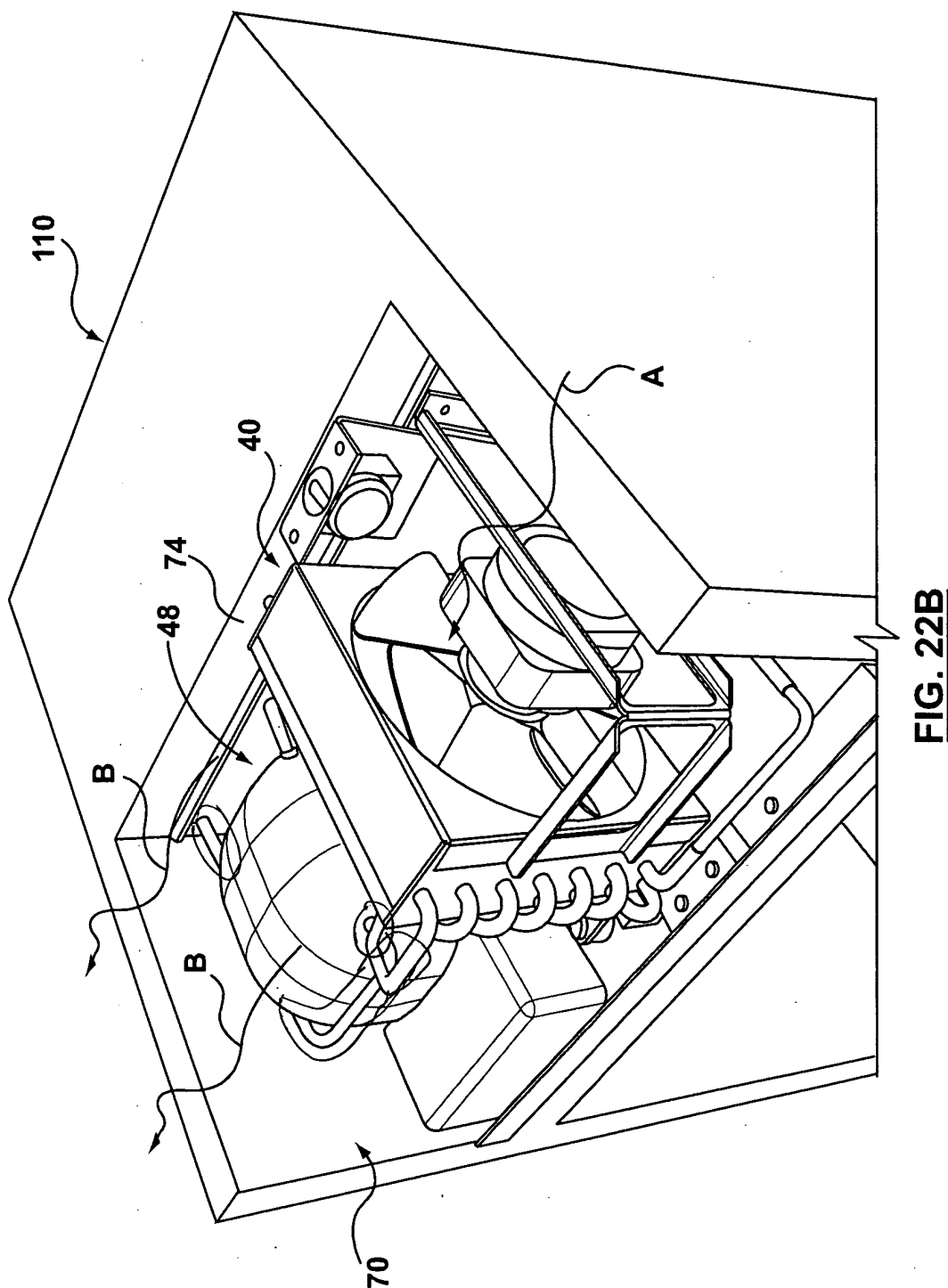


FIG. 22A



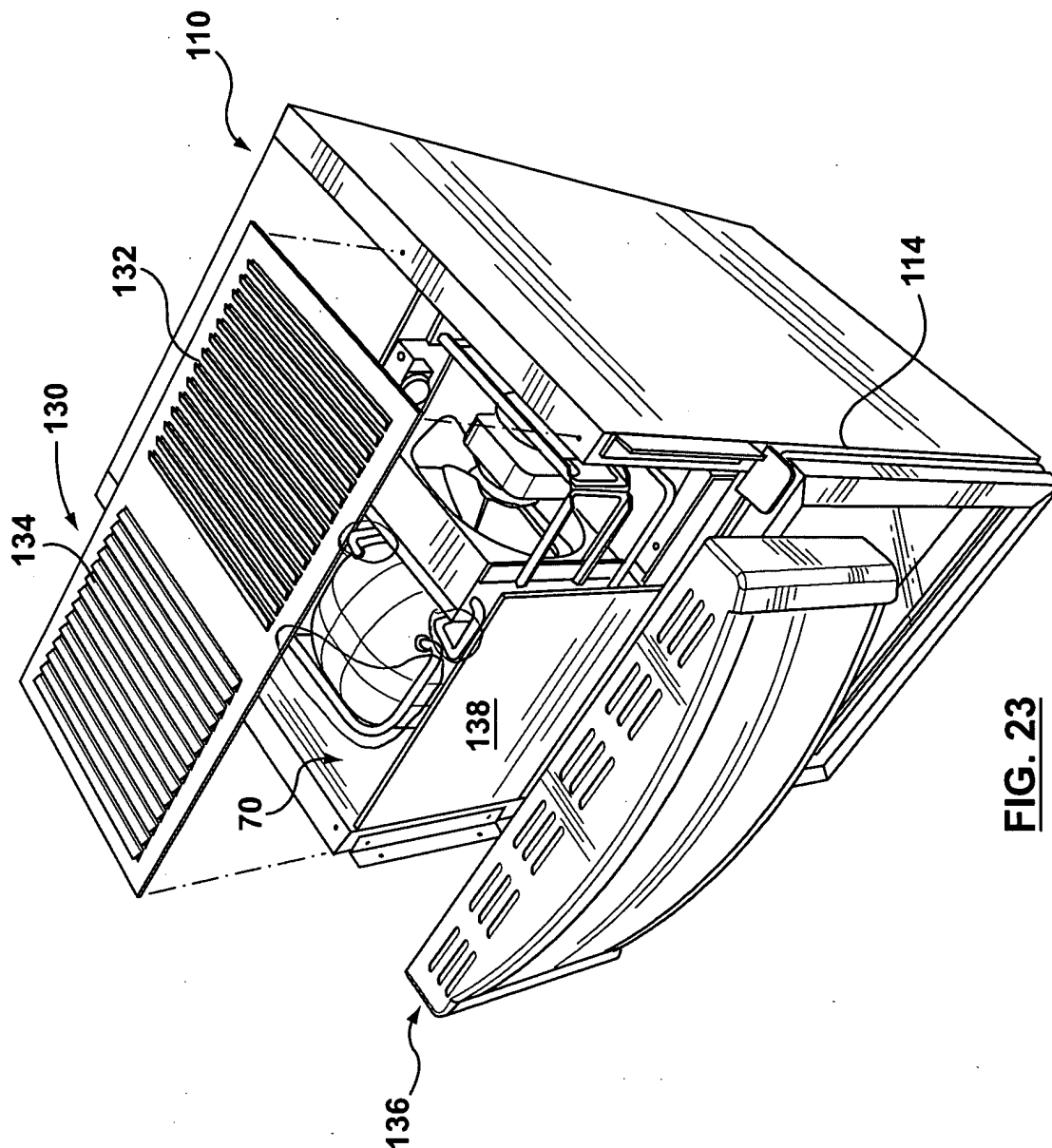


FIG. 23

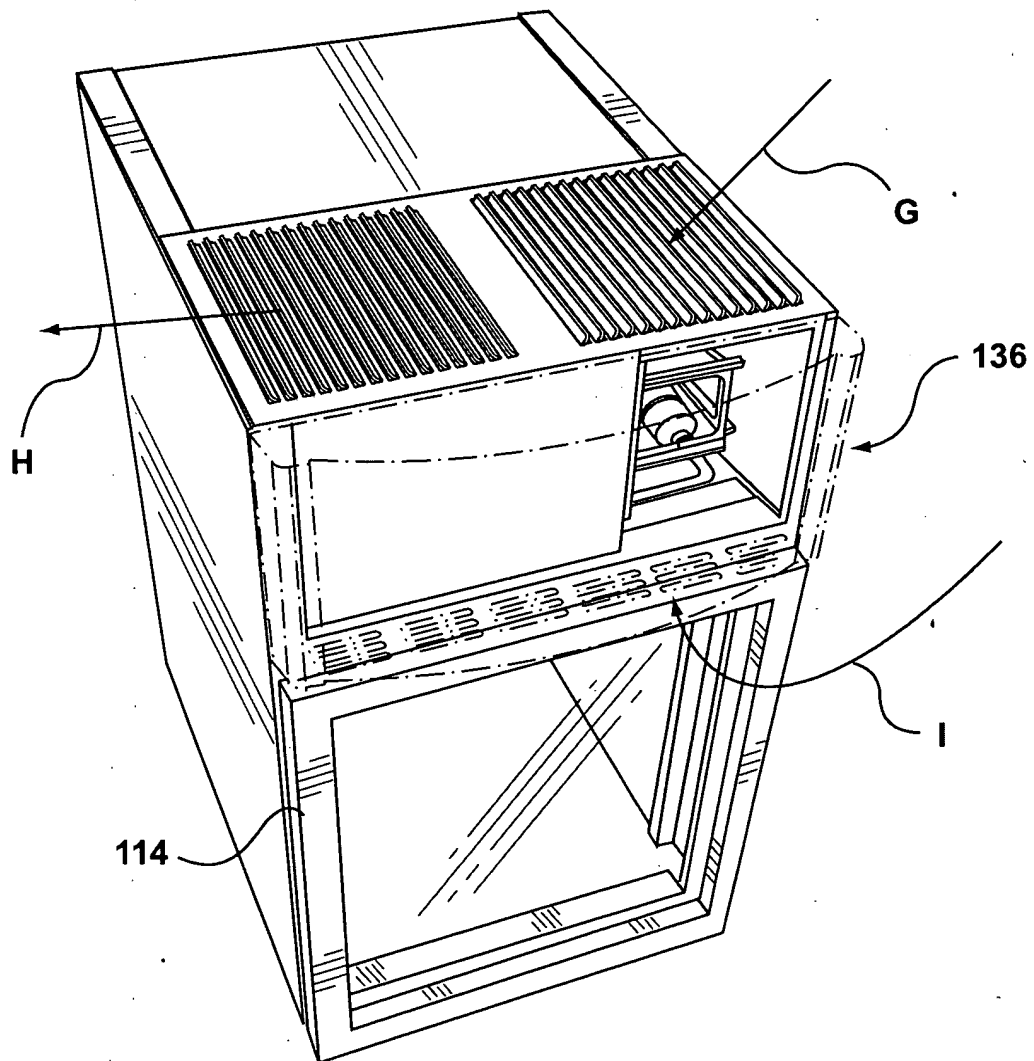


FIG. 24

Appl. No. 10/687,749
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Inventor: Fee et al.
Reply to Office Action of April 7, 2005
Annotated Sheet Showing Changes

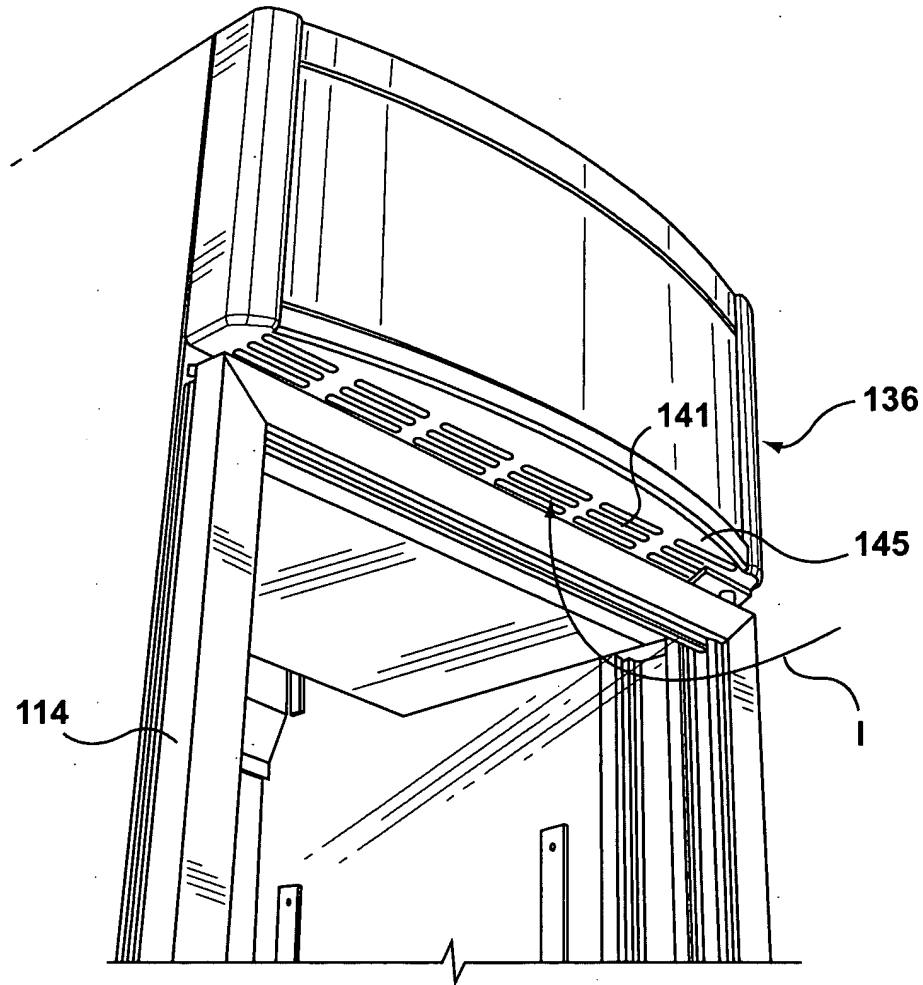
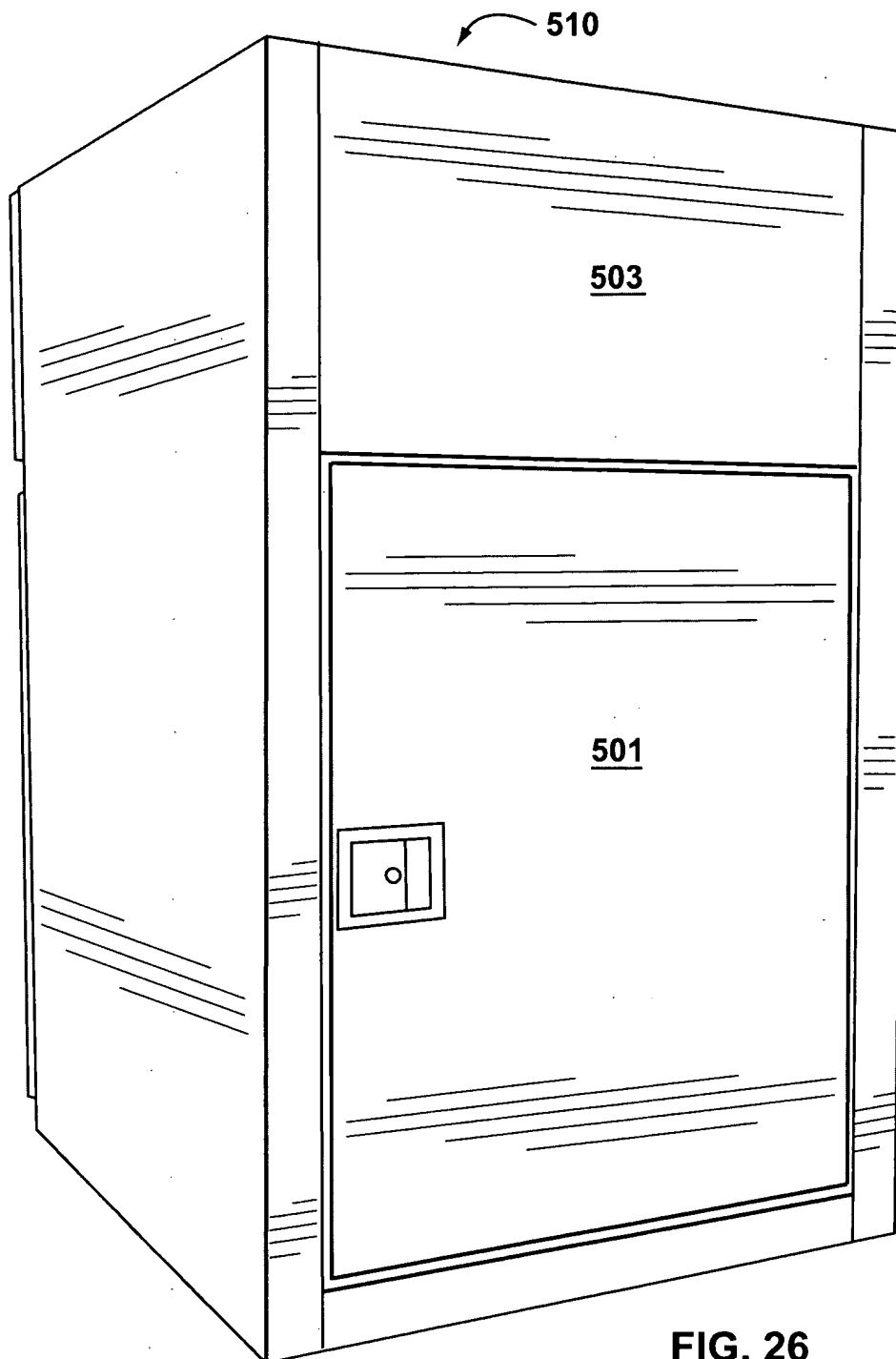


FIG. 25

Appl. No. 10/687,749
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Annotated Sheet Showing Changes



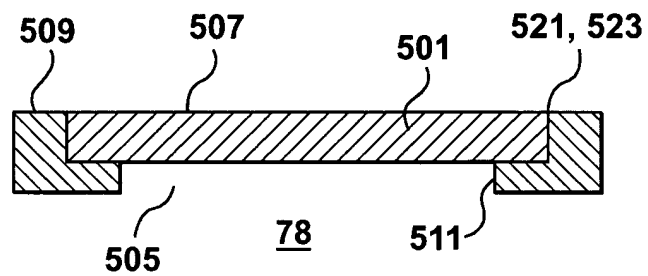


FIG. 28

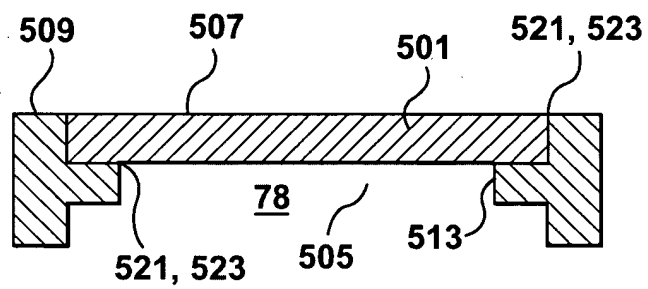


FIG. 29

Appl. No. 10/687,749
Title: MODULAR REFRIGERATION UNIT AND REFRIGERATOR
Inventor: Fee et al.
Reply to Office Action of April 7, 2005
Annotated Sheet Showing Changes

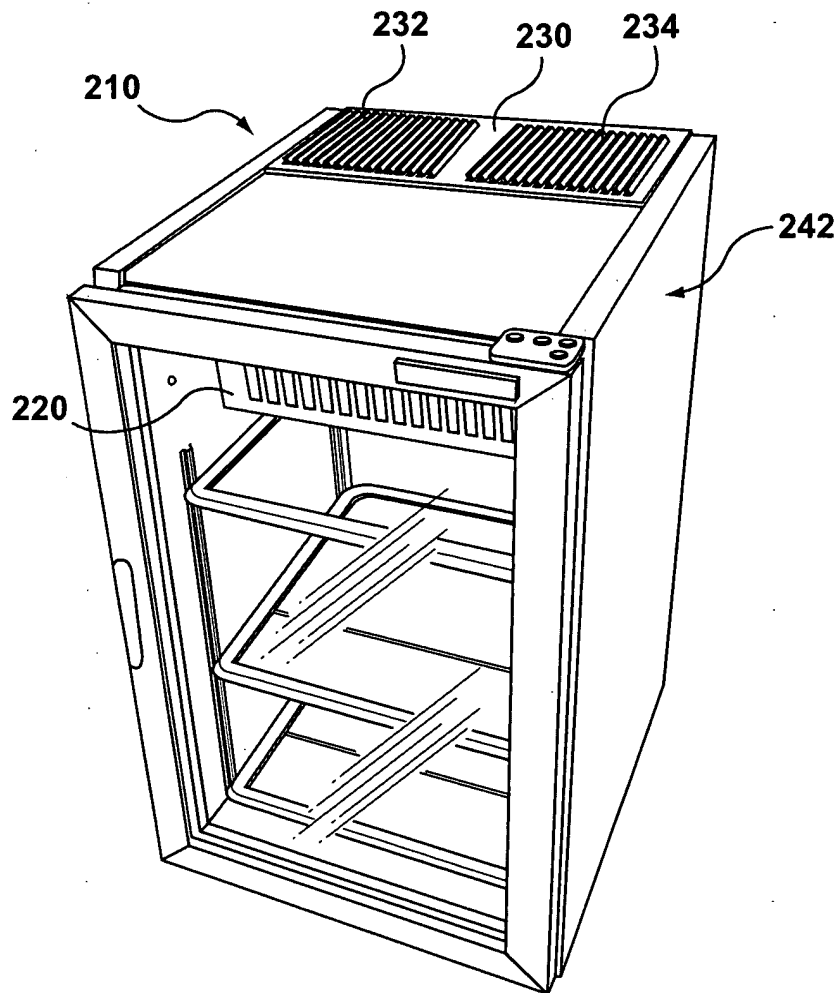


FIG. 30A

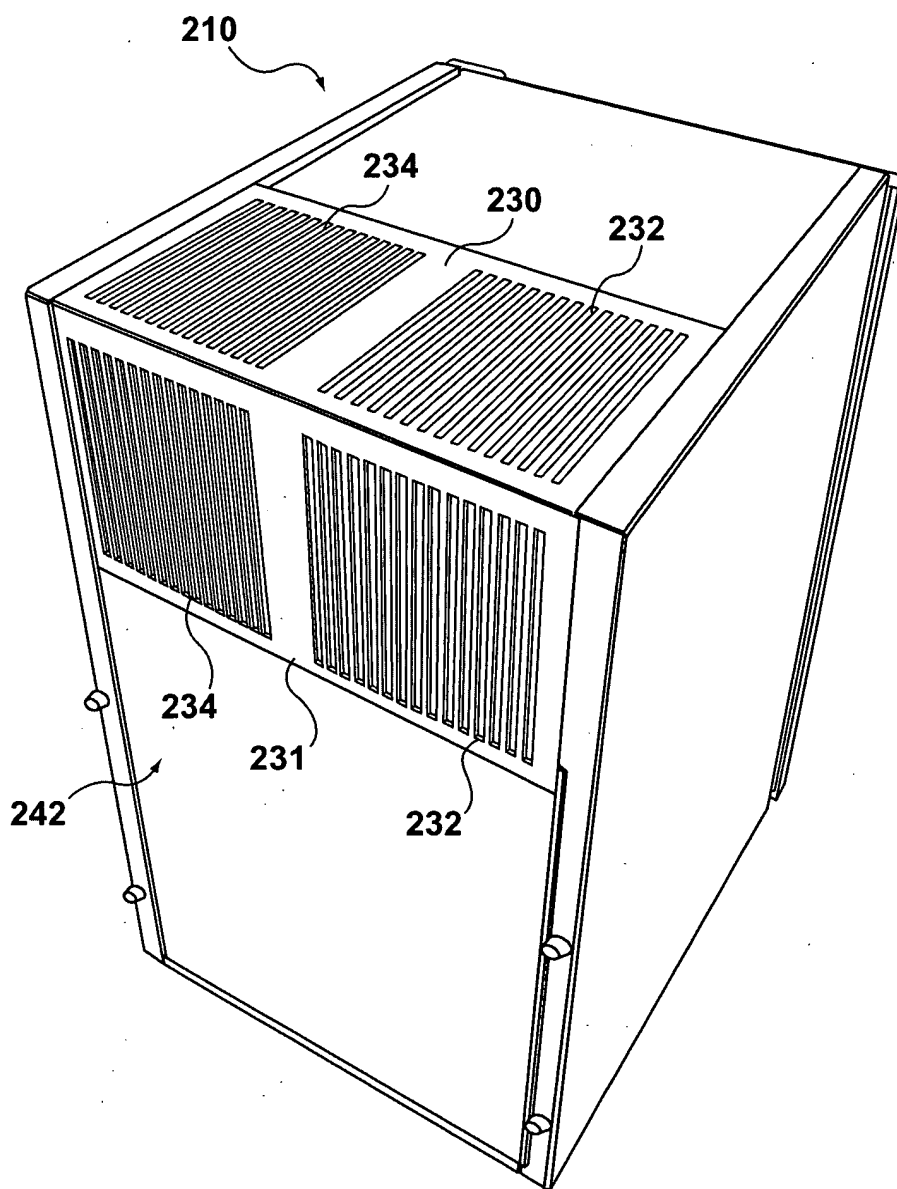


FIG. 30B

Appl. No. 10/687,749
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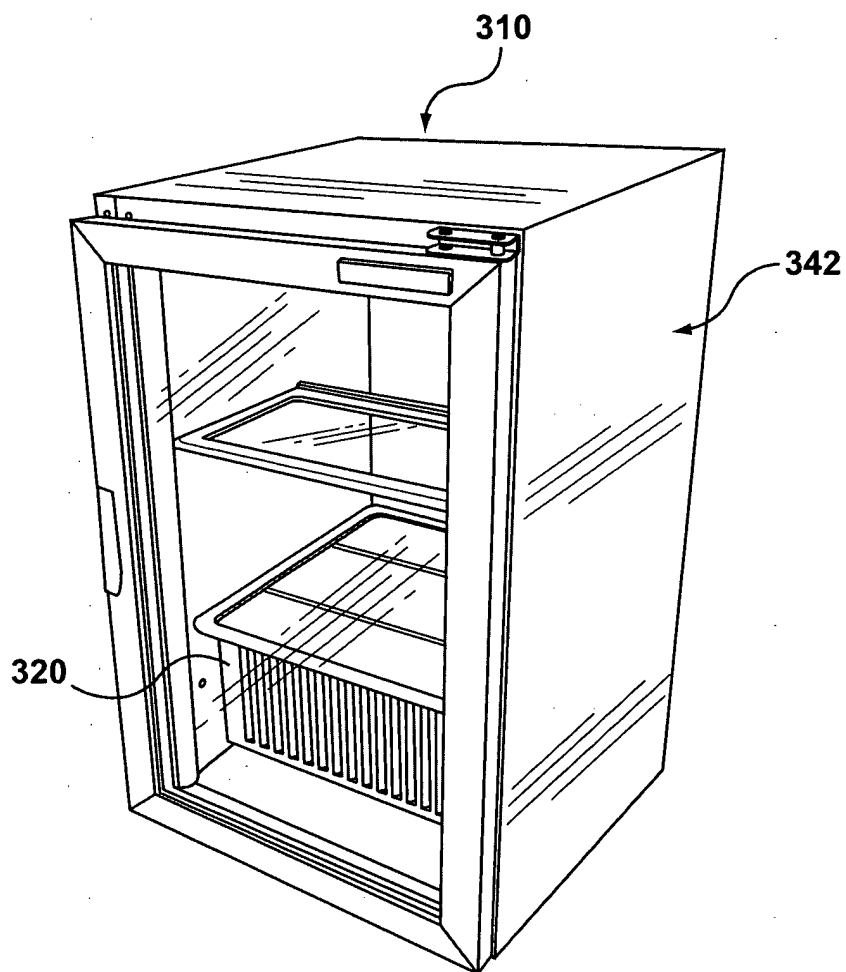


FIG. 31A

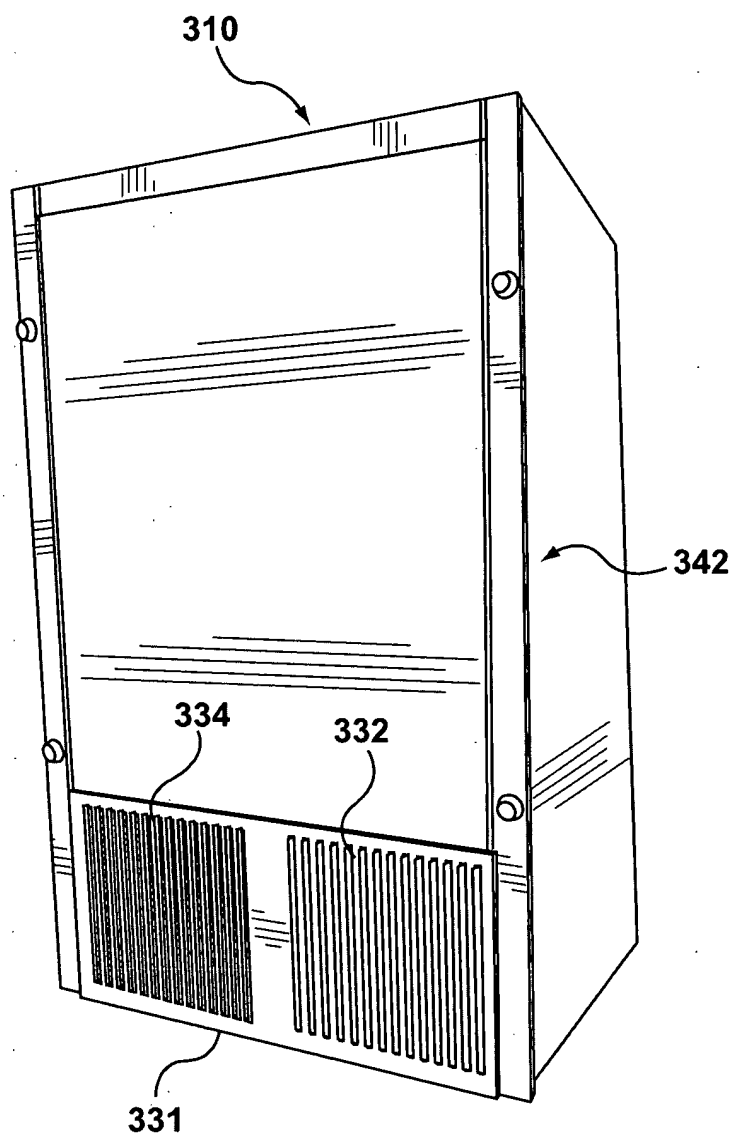


FIG. 31B

Appl. No. 10/687,749
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Annotated Sheet Showing Changes

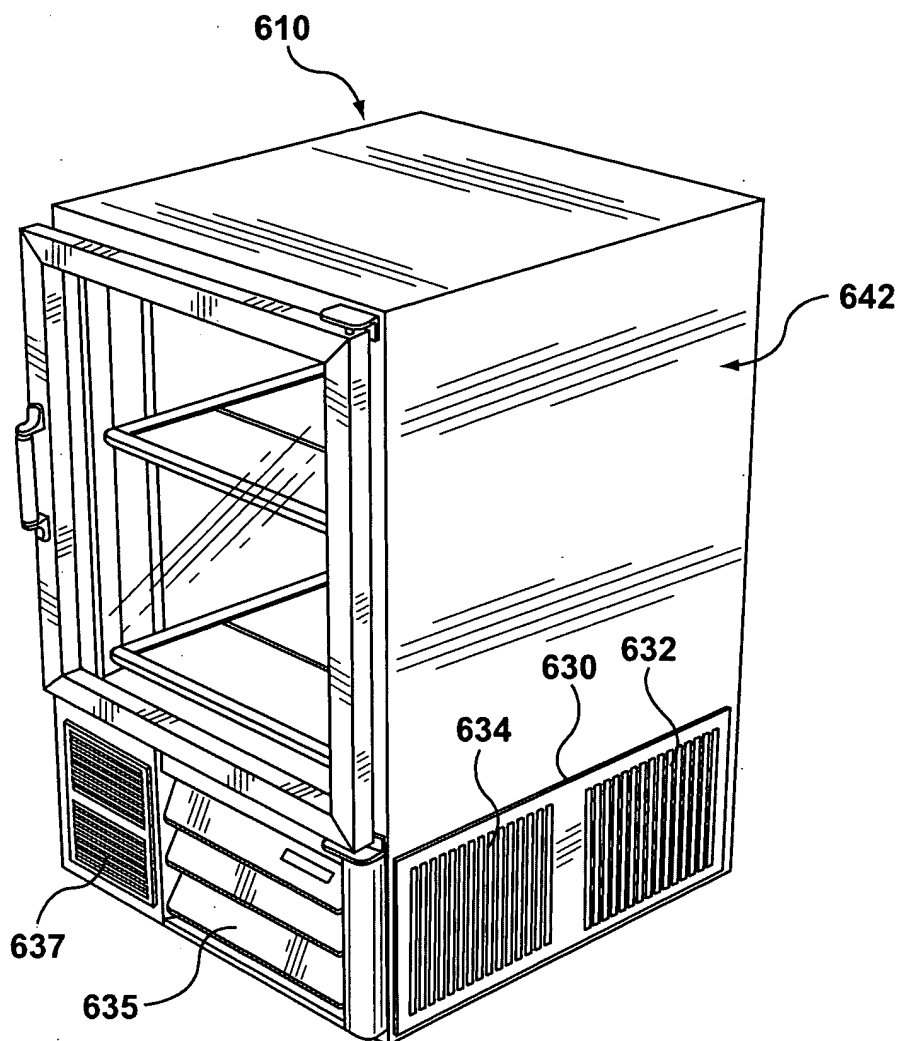


FIG. 32

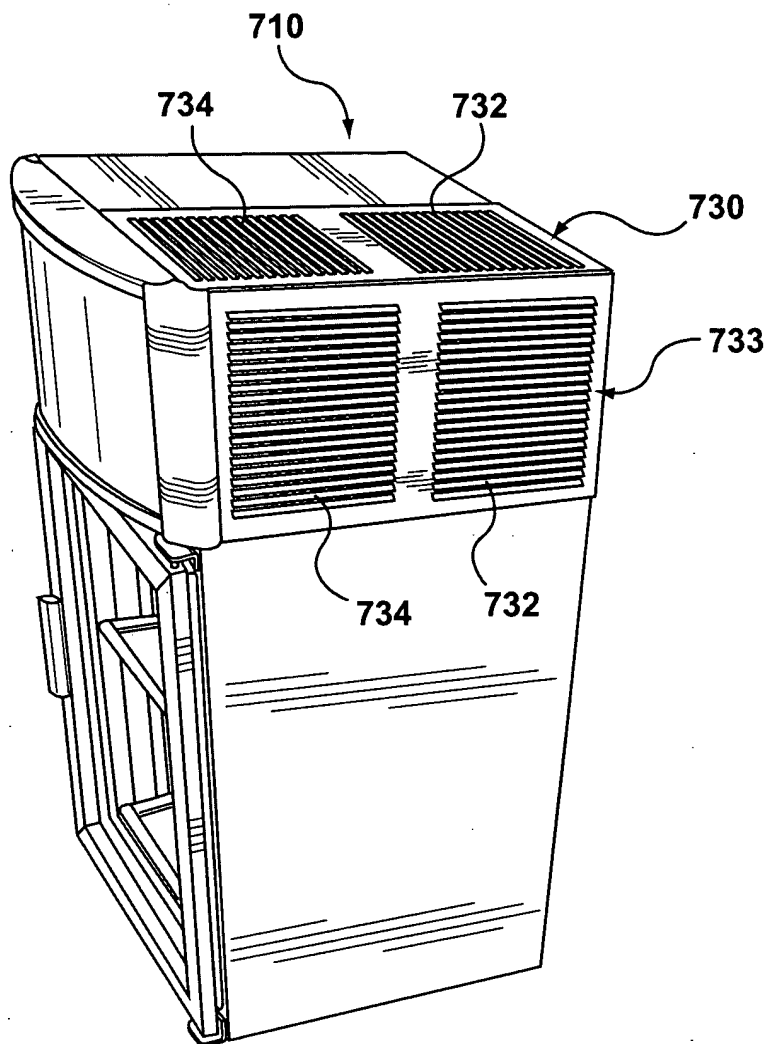


FIG. 33A

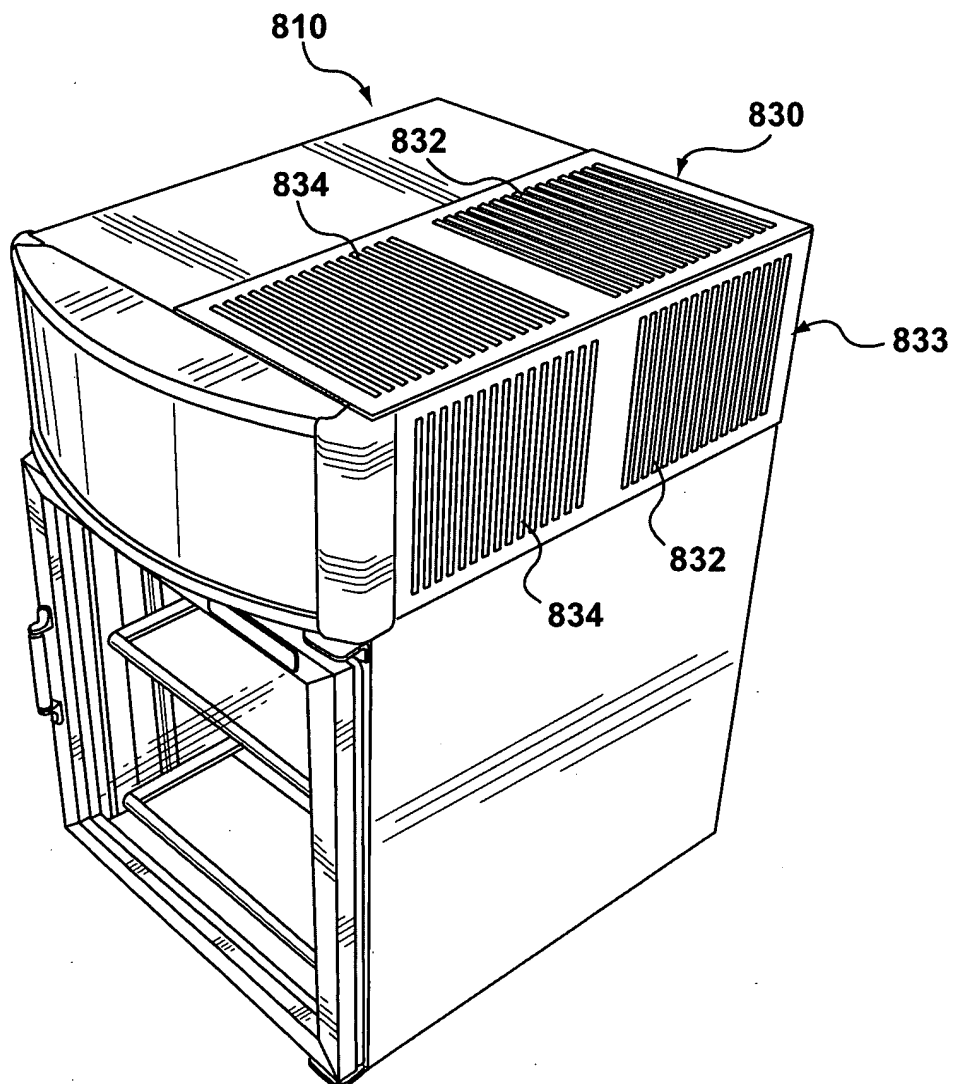


FIG. 33B